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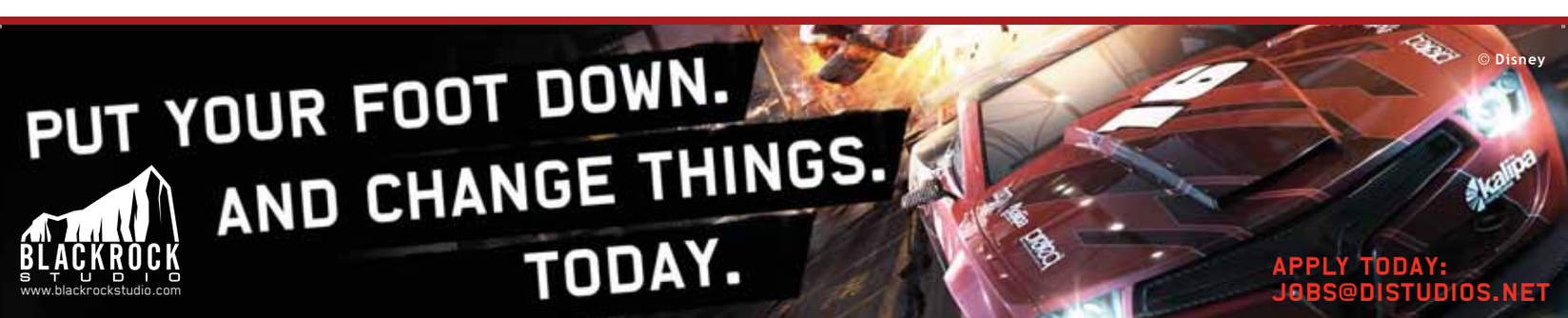

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Editor-in-Chief
Michael French
michael.french@intentmedia.co.uk

Deputy Editor
Ed Fear
ed.fear@intentmedia.co.uk

Staff Writer
Will Freeman
will.freeman@intentmedia.co.uk

Online Editor
Rob Crossley
rob.crossley@intentmedia.co.uk

US Editor
Colin Campbell
colin@intentsocialmedia.com

Advertising Manager
Katie Rawlings
katie.rawlings@intentmedia.co.uk

Production Manager
Suzanne Powles
suzanne.powles@intentmedia.co.uk

Designer
Dan Bennett
dan.bennett@intentmedia.co.uk

Sub-Editor
Gemma Messina
gemma.messina@intentmedia.co.uk

Publisher
Stuart Dinsey
stuart.dinsey@intentmedia.co.uk

Managing Editor
Lisa Foster
lisa.foster@intentmedia.co.uk

Executive Editor
Owain Bennallack
owainb@gmail.com

Contributors
John Broomhall, Nick Gibson, Thomas Grove, Dave Jefferies, Nicholas Lovell, Faye Sieracki, Billy Thomson

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'Independent studios have the advantage'

Williams and Wheelwright return with new Midlands studio Playground 1Team looking to exploit new business models

by Michael French

UK GAMES INDUSTRY veterans Trevor Williams and Nick Wheelwright reckon they can inject new life into independent games development with their new studio Playground.

As revealed by *Develop-Online.net* late last month, Swordfish founder and subsequent Codemasters Birmingham GM Williams and ex-Codemasters MD Wheelright have opened a new studio based in the Midlands that will look to exploit new business models.

Williams recently left Codemasters, a year after the UK publisher bought his studio Swordfish following Activision's decision to sell of key Vivendi assets after merging with Blizzard. He told *Develop* he wants to now remain an independent developer.

"Last year was tough for me when Activision divested Swordfish," he said. "I founded it 15 years ago and watched it grow up. I wasn't sure I wanted to run another studio after that.

"But Nick approached me after I'd left – we'd crossed paths before, but never worked together; he had left Codemasters before I joined. And it turned out there was overlap in what we want to achieve. He's a smart guy, a good accountant, and I build strong dev teams."

Williams (above) and Wheelwright (right) officially open Playground in January

Williams plans to build such a team – but plans to draw the line at having 20 staff.

He explained: "When it came to talking about what we wanted to do, a team of over 150 working on boxed products is a big risk. At the same time, while the online market is growing, not many have made the most of it yet.

"Indies are very well placed to take on those new business models, because if you have a 100-man internal team you move onto a new project and there is pressure to deliver straight away. If you hire 30 artists you have to give them something to do – you have to feed the machine. You have to have an ROI and P&L together before you even design anything – that's just the way it works, but in our first year we want to limit ourselves to 20, which should allow for us to be highly creative."

Wheelwright and Williams have already picked a few staff to join them ahead of the studio's official opening in January. But there's no set publishing partner yet, and the studio's first project at least will be self-funded.

> ***"Indies are well placed to take on those new business models. But with a 100-man internal team there is pressure to deliver. You have to feed the machine."***
>
> Trevor Williams

There's also no game concept to officially talk about yet – but Williams' forte is sports games and shooters, so it won't be a surprise to see Playground work in those genres.

Those two genres are also entrenched in the console space, and Williams is hoping Playground can be first to mix them with the emerging models coming through in online games.

"The change is coming. Someone is going to crack it, but all the companies in the past I have worked with had to be reactive," he said – pointing out the smaller team can help realise that goal. "With a smaller company you can be proactive, take a risk, and find partners willing to take a risk with you."

And at this moment, he says that another studio sell off is the last thing on his mind: "Swordfish was considered a successful company because I sold it – but with Playground we want critical acclaim, and to set out reputation on quality.

"Vivendi treated us very well – but being acquired was possibly the worst thing to happen to us. The minute you are on the treadmill you lose agility and versatility. Internal studios are always under pressure to grow, but not take any risks."

"The EAs and Activisions of the world are waking up to this – and they will have to start looking to the indies for this model."

Editorial

Gloom 101

IS IT REALLY terrible news that the Government's pre-budget report acknowledged, but ultimately denied the vocal lobbying for a games tax break?

In all of *Develop*'s 101 issues, it's more surprising that the debt-striken authorities took time out to say anything in reference to our vast end of the creative spectrum when plugging various gaps in its deficit.

As the industry moves into a new decade and comes to terms with the new online era, I would argue that it is time the industry called it quits on the cry for a tax break.

Tiga and its members, plus recent initiatives like the Games Up campaign, have certainly done well to raise the profile of the industry. But campaigning for cash from the Government – when the Government has no cash – is starting to do a disservice to the industry.

Yes, Montreal booms thanks to a great subsidies – without them certain blockbusters wouldn't exist.

Yet after three visits to Montreal, I get the feeling the industry there today is a bit artificial – those studios are steroid-fuelled. While the benefit is a strong education scene, I'm not convinced that the reverse will work for the UK, which already has good colleges but some developers think needs a tax push to drive it further.

In truth if anyone should be intervening, it shouldn't be the Government – it should be UK studios trying to make the industry better themselves.

I'm not either an uppercase or lowercase C conservative. But studios likes of Jagex, Frontier and Realtime Worlds have proven we don't need subsidy support. So too have in-house teams at FreeStyleGames and Rockstar North, plus Sony's London and Liverpool bases.

When the R&D tax credits system gets tweaked or if the Government's pledges to fund a chunk of a £10m games education project, the industry should rush to develop these further, not condemn the rest for poor support.

Demanding tax credits for a sector that built its rep on gutsy talent alone suggests the UK has lost its shine. That's the wrong message. And given the fact this issue shows the many ways talented UK people shape the global industry – check out 30 Under 30, our look at Facebook games, the London games guide, and even Unity's praise for Criterion – it's a message which is wildly inaccurate.

Michael French
michael.french@intentmedia.co.uk

Jagex explains why it canned a whole MMO

Expensive Runescape sequel ditched due to 'serious mistakes', but team now reworking concept with famed founder Andrew Gower

by Will Freeman

JAGEX CEO Mark Gerhard has revealed why he pulled the plug on *Runescape* sequel *Mechscape* – but reckons the millions of pounds spent on the project won't be wasted.

Last month the UK studio – the biggest developer in the country – confirmed that *Mechscape* was cancelled despite having eaten up a big budget.

But the team working on the game have already started to rework their ideas, this time in close collaboration with company founder Andrew Gower, who designed the original *Runescape*, one of Europe's most popular MMOs.

Speaking exclusively to *Develop*, Gerhard admitted that serious mistakes were made in the creation of the original *Mechscape*, but insisted time and money spent on the planned follow-up to *Runescape* will just make for a better second online game.

"Putting our values up front, and to explain what our success is all about – here it has always been about creating the best possible game we can, and creating a game we want to play and our community would want to play," confirmed Gerhard, who described the decision to cease development so close to release as one of toughest of his career.

"We could have just shipped *Mechscape*, because it was 'feature-ready', if you will, and it probably would have been okay, but it wouldn't of been great, and at Jagex we really value our community," added the CEO.

"We feel that if we took the commercial line of 'hey, it's ready, so let's ship it because it's done' that would be treating our community with disdain. That's how we would perceive it."

Gerhard says that the decision to axe Mechscape was one of the hardest of his career

Gerhard added that the game simply wasn't up to the standards Jagex sets itself internally, hence why Gower has taken a hands-on role as producer to guide the new project.

> ***"There will be assets that we can re-use. The engine has been developed for four years, so the game we're starting today will benefit from all that hindsight."***
>
> Mark Gerhard

"Certainly there'll be assets from Mechscape that we can re-use," Gerhard explained.

"For example the engine has been developed for four years continuously, so the game we're starting today will benefit from all that hindsight tremendously.

"Yes, we made some serious mistakes. We even spent a whole year building a tutorial again and again and again. But it's not all just a case of linear time that has been wasted."

Describing the new title's development process as galvanised and made more efficient by the time dedicated to *Mechscape*, Gerhard also shed light on other factors that contributed to the project's demise at the renowned Cambridge developer.

"In our platform an MMO can be developed in a year. The most expensive thing you can do on a game is change the design brief. As soon as you make progress and make changes, all that retrofitting doesn't just add 10 or 20 per cent to the development time; it doubles it.

"That explains why we spent so much time on *Mechscape*, because we kept changing it because it wasn't quite right. I think that given a solid brief – which we have now – and the team we have now, which is not just experienced, but so passionate and dedicated, I think it's very realistic that a year or so from now, we could have a game. Hey – maybe it will be even sooner."

www.jagex.com

Blackberry backs games

Real oppotunities exist for games developers on business platform, says RIM ● Developer support services improved

by Will Freeman

AS DEVELOPERS and publishers continue to struggle with issues of discoverability on the iPhone's App Store, and Android fails to ape the success of Apple's platform, Blackberry company RIM has reaffirmed its commitment to supporting games makers.

The platform's developer relations director Mike Kirkup has told *Develop* that his employer is now focused more than ever on offering studios a complete support package, assisting them with everything from creating product to monetisation and publication.

Furthermore, RIM has revealed a range of developer services, integrating revised payment and advertising APIs into the platform's infrastructure, and increasing support for the likes of geo-location, push notifications and Open GL ES 1.0.

"One of things we're focused on is creating a really vibrant and successful ecosystem for developers. We're not focused on the number of applications that we have on the market or any of those kind of metrics. We're very focused on making sure that we have a very successful and easy-to-use developer platform," insisted Kirkup.

"We've put in lot of work around choice," he added. "Firstly we're giving users choice in the different games, and hardware platforms, and various forms of functionality.

"Secondly we're giving developers choice, not just in how they commercialise apps – they don't have to sell them through App World, and can sell them wherever they want however they want, through carriers or channels like Crackberry – but also we offer choice in tooling and methodology. We support Java, and we support web very heavily. We're moving towards Flash, and you'll see us continue to enhance that so that we meet developers where they want development rather than try and force them to our methodology."

> ***"People actually make money selling games on the Blackberry."***
> Mike Kirkup, RIM

Kirkup gave *Develop* a number of reasons why he believes Blackberry provides a great opportunity for developers – recognising that creating apps for portable platforms now encompasses many business and marketing disciplines unfamiliar to the start-up studios that thrive in the mobile sector.

"One is that we have a huge userbase of well over 32 million active subscribers worldwide, and that's growing exponentially right now. There's a huge opportunity now to get in at the ground floor and sell to a lot of customers," suggested Kirkup, who also claimed that discoverability issues that plague other platforms are absent on App World.

"People actually make money selling games on the Blackberry platform today. They're not jail-breaking devices to rip them off. No one's buying applications through the Android market today. People are actually spending real money to buy applications on Blackberry, and there's a whole bunch of services coming to augment that as well.

"Last and certainly not least, we give people choice and control over their future. We give people the ability to sell through their own channels, through their own capabilities. We're giving people the tools they want to use in the way they want to use them, and we're allowing them to establish relationships with customers directly."

Kirkup concluded by describing his given reasons as a "perfect storm" for why studios should make games for Blackberry handsets.

Report: MIGS 2009

Over 1,500 attend annual Montreal game development summit

by Ed Fear

IT'S THE FASTEST growing game development territory in the world, so perhaps we shouldn't have been surprised by the mass turnout to 2009's Montreal International Game Summit – which this year moved to the lavish Hilton Bonaventure, 'in keeping with the boutique nature of conference,' went the official line.

Over 1,500 people attended – a massive number for a local event, and a good proportion of the Montreal gaming scene in general. The turnout proved that the emergence of GDC Canada this year, taking place a few months earlier, seemed to have no negative effect on the conference.

In quite a scoop for organisers Alliance Numerique, the conference's opening keynote was provided by Square Enix CEO Yoichi Wada – himself now in charge of a large Montreal development operation after his company's acquisition of Eidos. Speaking about the Japanese firm's new focus on providing games not for geographical locations but for lifestyles, Wada refuted the notion of a global market and announced that the Square Enix group's first 'global' game was to be started in Montreal soon.

Elsewhere, *Assassin's Creed II* lead designer Patric Plourde gave an honest breakdown of the sequel to what is still probably Montreal's best known export. In addition to over 200 people working at the famed Ubisoft campus, teams were also established at Ubisoft's other facilities in Annecy and Shanghai to provide support.

The UK was represented by Media Molecule's lead architect Paul Holden. who delivered an unusually in-depth talk about the problems the company found dealing with vast amounts of dynamic geometry involved with user-generated content and introduced HeapMon, an internal tool dedicated to tracking memory allocations.

Valve director of business development Jason Holtman also gave a keynote regarding the digital-distribution market, giving concrete statistics on how continually updating *Team Fortress 2* has helped increase sales. The game is now at a point where the active player base is still as high as when it first launched, completely bucking the quick falloff that most online games experience. He also highlighted how digital and retail sales go together, and how Steam sales actually spur purchases in bricks-and-mortar outfits.

With at times six or seven sessions taking place, it can be tempting to question the wisdom of remaining a two-day conference for 2010 – but at least it means that your session planner will be full.

www.sijm.ca

Top: Square Enix CEO Yoichi Wada makes his keynote.

Above: An eager MIGS 2009 audience listen intently

DEVELOP DIARY

YOUR COMPLETE GAMES DEVELOPMENT EVENT CALENDAR FOR THE MONTHS AHEAD…

GDC 2010
March 9th to 13th
San Francisco, US
www.gdfconf.org

It feels like the doors on the main 2009 GDC only closed yesterday, and already the shadow of its successor is looming large on the horizon.

Returning to the Moscone Convention Center once more, the world's largest developer event will again let the international community share techniques, debate, make new contacts, and showcase the cutting edge from the tools and tech sector.

With plenty of sessions and panels already detailed at the event website, more is set to be annouced soon. A number of related conferences are also due to run alongside GDC, including the AI Summit and the IGDA education event.

FEBRUARY 2009

DICE SUMMIT 2010
February 17th to 19th
Las Vegas, US
www.dicesummit.org

MARCH 2010

GDC 2010
March 9th to 13th
San Francisco, US
www.gdconf.com

AI SUMMIT
March 9th to 13th
San Francisco, US
www.gdconf.com/conference

APRIL 2010

NORDIC GAME 2010
April 27th to 29th
Malmö, Sweden
www.nordicgame.com

MAY 2010

GDC CANADA 2010
May 6th to 7th
Vancouver, Canada
www.gdc-canada.com

JUNE 2010

FESTIVAL OF GAMES
June 4th to 5th
Utrecht, Holland
www.festivalofgames.nl/site

E3 2010
June 15th to 17th
Los Angeles, US
www.e3expo.com

JULY 2010

DEVELOP IN BRIGHTON
July 13th to 15th
Brighton, UK
www.develop-conference.com

DEVELOP AWARDS
July 14th
Brighton, UK
www.develop-online.net

CASUAL CONNECT SEATTLE
July 20th to 22nd
Seattle, US
seattle.casualconnect.org

AUGUST 2010

GAMESCOM 2010
August 18th to 22nd
Cologne, Germany
www.gamescom-cologne.com

OCTOBER 2010

CASUAL CONNECT KYIV
October 20th to 22nd
Kiev, Ukraine
kyiv.casualconnect.org

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WorldView

Our monthly digest of the past month's global games news…

DEALS

Chinese outsourcer **Virtuos** has signed a deal to integrate **Allegorithmic**'s Substance Air into its pipeline.

Emergent has integrated **Sundog**'s SilverLining dynamic sky SDK into Gamebryo Lightspeed.

Ubisoft Barcelona has adopted **Mystic Game**'s EMotion FX technology for its *Your Shape* Wii lifestye title.

Gameloft has signed a deal with **Capcom** to publish six of the Japanese firm's titles through its distribution channels.

Windstorm Studios has partnered with Russian outsourcer **226 Productions** for a new prototype.

Larian Studios is to use **Emergent**'s Gamebryo for two upcoming projects.

Zynga has raised a further $15.1 million in funding, as investors **KPC&B**, **Foundry Group** and **Hoffman** upped their stakes in the firm.

Xaviant has licenced **Xaitment**'s full suite of AI middleware for Xbox 360 project *Black Orchid*.

TimeGate Studios has picked **Trinigy**'s Vision Engine for an upcoming secret MMO and other future projects.

EA REALLY DID BUY PLAYFISH

Last month we reported on these very pages about a rumour suggesting that EA had bought Facebook gaming aficionados Playfish for $250m.

Turns out it was true, if slightly undervalued: EA has paid $275 million in cash, plus approximately $25 million in equity retention. In addition, the SEC filings point out that the company could be set to make an extra $100 million if it achieves set performance milestones until December 31st 2011, bringing the total to a whopping $400 million.

Playfish will sit within the EA Interactive section of EA's monolithic structure, which is focused on web and wireless expansion of EA's business.

Playfish CEO Kristian Segerstrale told *Develop* that part of the plan going forward will be to leverage EA's intellectual property on the Facebook platform as well as continuing to create new IP.

UNITED KINGDOM

SILVERBALL LAUNCHED AS FUSE FIZZLES OUT

The UK studio formerly known as Fuse Games is no more following its closure last month – but its management team have reformed for Silverball Studios, MD Adrian Barritt told Develop recently.

"The liquidation was triggered because some of the shareholders of Fuse wanted to go their separate ways," he said.

Just days later, however, Barritt and Fuse co-founder Richard Horrocks opened Silverball Studios – a new venture that acquired the assets of Fuse and employed all its former staff. Former Empire Interactive founder Simon Jeffrey is also on board as a director.

The trio and their team are now "currently busy working on exciting games for Wii and DS," Barritt told *Develop*.

www.silverballstudios.com

CANADA

THQ OPENS NEW MONTREAL STUDIO

THQ is to open a brand new studio in Montreal, after striking a deal with the Quebec Government.

The studio willl open in mid-2010, and will make titles for the publisher's Core Games division. The global publisher plans to create 400 new jobs at the office and expand to include all sorts of disciplines including design, engineering, art, content and technology development, quality assurance and localisation.

In fact, THQ says the studio will become the biggest studio in its network of dev teams that employs 1,200 already. Earlier this year it shut and sold many of its studios, including Maryland-based Big Huge Games.

www.thq.com

AUSTRALIA

FUZZYEYES REMAINS OPEN DESPITE MASS LAYOFFS

South Brisbane-based indie Fuzzyeyes has axed the majority of its workforce, citing money problems and legal issues.

A statement issued by the firm's CEO says that staff has been reduced to a skeleton crew, yet the studio remains operational in a limited capacity. In-house game development has been suspended, with the firm's projects now outsourced to other, as yet unnamed, studios.

"Fuzzyeyes will be back in full operation after the settlement, and a number of Fuzzyeyes ex-employees have been offered a position in early 2010," confirmed studio CEO Lu Wei-Yao.

www.fuzzyeyes.com

UNITED STATES

SMITH & TINKER AXES 30 PER CENT OF WORKFORCE

In further glum news for the industry's employment figures, Washington-based startup Smith & Tinker – formed by former FASA Studios chief Jordan Weisman in 2007 – has laid off around 30 per cent of its staff.

Weisman snapped up the rights to *Shadowrun*, *Crimson Skies* and *MechWarrior*, but its first project was *Nanovor*, a new range of games and toys targeted at the lucrative eight to 12-year-old boys market.

The firm, however, says the layoffs happened simply because it 'staffed aggressively early on to meet deadlines for launching our product online and in retail,' and that all severed workers would receive generous compensation packages.

www.smithandtinker.com

UNITED STATES

EA TO CUT GAME LINE-UP TO 'ABOUT 40'

They might have just spent all that money on Playfish, but EA boss John Riccitiello has admitted that the firm will need to make significant cuts to its publishing contracts and development projects in order to remedy its haemorrhaging capital.

In an interview with *Reuters*, Riccitiello revealed that the company will cut down on the number of products it publishes, down from 50 to about 40 in the next fiscal year, with a renewed focus on core franchises.

"Thirty wouldn't shock me at some point in the future," Riccitiello said. He also claimed that the firm's cost-cutting strategy was "an offensive, positive step towards the evolution of our business."

www.ea.com

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HEAD TO WWW.DEVELOP-ONLINE.NET

Our online resource features news, features, analysis and commentary posted daly, and is available via the web, mobile, RSS and daily email and news alert blasts.

NEW GRADUATE TALENT COMPETITION

DEVELOP AND AARDVARK SWIFT have teamed up to launch a nation-wide search for the brightest young programming graduate.

Called Search for a Star, the competition requires programmers to take part in a series of challenges to find the best raw talent around.

A large number of insitutions have already submitted their biggest and brightest, who will soon go through a gruelling first round of technical questions, devised and judged by Relentless and based on its own junior programmer recruitment quizzes. Further rounds will include a more in-depth technical task and a panel interview.

The winner will be presented with a Develop Award at our annual ceremony in Brighton, in front of 500 of the industry's movers and shakers right when they're looking for work.

"Many studios feel that graduates are falling short of their requirements," said Ian Goodall, director of Aardvark Swift. "So as well as providing opportunities for graduates, we're also hoping to help forge better links between UK developers and academic institutions."

www.aardvarkswift.com

UNITED KINGDOM

BEAUTIFUL GAMES STUDIOS FEELS THE SQUARE SQUEEZE

Square Enix has made workforce cuts at Beautiful Game Studios, responsible for the *Championship Manager* series.

In a prepared statement, the publisher told *Develop* that its current business model "does not allow us to compete in a fast-changing industry with any degree of flexibility or commercial confidence," read the statement.

"To achieve this, we will be restructuring Beautiful Game Studios, which will regrettably bring with it unavoidable losses."

www.eidos.com

UNITED KINGDOM

ANDREW WALSH WINS WRITERS' GUILD GB AWARD

Andrew S. Walsh, writer of Ubisoft's recent *Prince of Persia* reboot, was this year's winner in the Best Videogame Script category at the Writers' Guild of Great Britain Awards this month.

The award, which was judged by the staff of *Develop*, celebrates games writing done by British writers working in the games industry.

Also nominated in the category was Mark Hill, who worked on *Fable II*, and Tom Edge, lead writer of *Routes*.

www.writersguild.org.uk

Top 10 Developers Chart – November 2009

#	COMPANY	COUNTRY	PRODUCT
1.	**Infinity Ward**	**United States**	**Modern Warfare 2**
2.	Nintendo	Japan	New Super Mario Brothers
3.	EA Canada	Canada	FIFA 10
4.	Ubisoft Montreal	Canada	Assassin's Creed II
5.	Turn 10 Studios	United States	Forza Motorsport 3
6.	Sega	Japan	Mario & Sonic Olympic Winter
7.	Sports Interactive	United Kingdom	Football Manager 2010
8.	Konami	Japan	Pro Evolution Soccer 2010
9.	Rockstar North	United Kingdom	Grand Theft Auto Episodes
10.	Namco	Japan	Tekken 6

Chart Supplied By: ChartTrack charttrack.co.uk ELSPA elspa.com

Giving a DAM: A retrospective

This month, **Ben Board** gets reflective about what 2009 meant for Xbox 360 devs…

IF YOU ASK ME it's about time for a minced pie, a mulled wine, and a bit of military-grade reflection on 2009: a biggie for Xbox and Microsoft gaming.

For a start, it's the end of year one for Team EuroDAM. Charlie, Allan and I have spent a hectic year learning the ropes, visiting developers, and dealing with questions. Airports and taxis, conferences and conference calls, and email by the truckload feature heavily, and we're the richer for it; this year has introduced us to the big picture of games dev in Europe. It's been a privilege to meet so many outstanding developers and help clear the path for some stellar titles. If you've shipped a game this year, props to you. If you're crunching for Easter, hang in there, and keep our contact details handy.

There have been a dizzying number of developments on our platforms this year. Most prominent was the announcement of Project Natal at E3 in June. I can't talk details, but it's genuinely revolutionary, and it's happening right now – third-party developers are crafting titles and testing concepts, while big publishers are building Project Natal into their future plans. The possibilities are nape-tingling.

Then there's Facebook, Twitter, Last.fm, 1080p instant movie streaming, Sky, Avatar marketplace, and Games on Demand, all delivered through NXE, which was one year old in November.

Windows gaming has had its own advances. Windows 7 and DirectX 11 released in October, helping performance through multithreading, tessellation and compute shaders. Games for Windows Live 3 also shipped this year with improved anti-piracy options, marketplace integration, and streamlined submissions.

But above all, it's about the games – retail, XBLA or Indie, blockbuster or bedroom, all brimming with invention and quality, and made by you lot. Have a great Christmas, and let's do it again in 2010.

Ben Board is a European developer account manager at Microsoft. He welcomes registered developers to contact him at eudam@microsoft.com.

INDUSTRY ANALYSIS SPONSORED BY Bethesda SOFTWORKS

COMMENT: BUSINESS

Taking a gamble?

by Nick Gibson, Games Investor Consulting

2009 has been a remarkably quiet year for games company mergers and acquisitions; the volume of transactions so far in 2009 is half that during the same period in 2008. Despite this reduced M&A newsflow, I am willing to bet that you missed a transaction – albeit modestly sized – that took place in September: the sale of a majority shareholding in Dutch online games publisher United Games.

What makes this transaction unusual is the identity of the acquirer, Austrian company Bwin, one of the giants of the online gambling world. This was followed in October by a $5.5m investment led by Bwin's UK-based rival Betfair in Watercooler Inc, a fantasy sports and social network games company. Online gambling companies have rarely invested in, let alone made, acquisitions outside of their sector – so what's going on? Given the sizeable cash reserves on many of the top gambling companies' balance sheets, is the games industry about to be flooded by gambling dollars?

POKER FACE

The games and gambling industries have co-existed alongside each other for decades now with almost no interaction nor, it would appear, much desire to interact with each other. Both industries use the term 'online gaming' to refer to two completely different phenomena without confusing many people, such is the infrequency with which the two industries overlap and share media or research coverage. These two interactive entertainment industries have grown to vast sizes in similar time frames but are utterly different. Regulation is the most important differentiator and is the reason why no major games companies operate in the gambling business, but that does not explain why online gambling firms have not diversified into games until now.

To understand why, we need to look at some recent gambling market trends. The early and mid part of this decade saw the online gambling industry explode, fuelled by the rapid popularisation of multiplayer poker in particular. Lofty IPO valuations and vast fund-raisings accompanied this internet gambling frenzy and, in many senses, helped accelerate it. However, this began to be tempered around the middle of the 2000s by increasing restrictions on online gambling in Europe but, in particular, the USA, where the legality of online gambling had hitherto been a grey area, exploited by companies located offshore.

By 2007, online gambling had effectively become illegal in America, as had any commercial dealings by non-gambling companies with offshore online gambling companies. This forced the big European online gambling companies to abandon all operations in the USA. Americans, however, continued to gamble online, finding ways round these restrictions but making themselves the target of government crackdowns. 27,000 poker players were subject to funds seizures in raids in mid-2009. The evaporation of the American market combined with the arrival of the recession has resulted in many of the surviving online gambling companies posting earnings declines and even losses in the last few years.

> ***"The traditional online gaming boom has resulted in an increasing crossover between the typical online gamers and online gamblers."***

CALL THE SLOTS

Whilst all this has gone on, the games industry, and online gaming in particular, has boomed; not just grabbing an increasing proportion of global entertainment spend but experiencing a radical demographic expansion that has given parts of the industry a mass market entertainment.

This has resulted in an increasing crossover between typical online gamers and online gamblers. Whilst online poker players tend to be male and between 25 and 40, other forms of gambling such as online bingo can attract a predominately female and older gambler.

In addition, skill-based variants of gambling and casino games have long proven popular on casual games services such as Pogo, while Zynga Poker is one of the most successful social network games with some 19m active players per month. Games represent not only a rapid growth alternative revenue stream but also players that increasingly match gambling's customer base.

You might not expect to see Betfair on these pages – but the firm made a big investment in social gaming earlier this year

Bwin attributed the rationale for acquiring United Games to its belief that there will be a strong convergence between MMOs and online gambling.

Betfair's investment in Watercooler, on the other hand, was made to give it an interest in a legal online games operation in the USA (there is now a widespread anticipation within the gambling industry that the Obama administration will eventually reverse the existing online gambling prohibitions). Betfair's move has therefore given it access to a sizeable gamer database to which it believes its gambling products will appeal.

So is this a brief foray or the opening sortie of gambling companies moving heavily into games? Many gambling companies are currently focused on re-establishing strong profit margins, and so are less likely in the short term to make potentially expensive and speculative investments in a wholly different industry.

But there is a huge amount of cash swilling around the online gambling business and I would wager that, with increasing demographic overlap and the high margin opportunities presented by games, we will see a few more of these smaller market entries over the next few years and quite possibly even a large-scale acquisition – especially if the US market does open up again.

Nick Gibson is a director at Games Investor Consulting, providing research, strategy consulting and corporate finance services to the games, media and finance industries.
www.gamesinvestor.com

COMMENT: INDUSTRY

Why making games is for the young

by Owain Bennallack

In the 1970s sci-fi *Logan's Run* humanity lives in an underground city full of sexually promiscuous party people.

At least they do until they hit 30, when they're toasted by the authorities.

Does this happen to 40-year-old developers, who don't even benefit from the Bacchanalian revelry beforehand? After all, most game developers are young, as we discussed last month.

Assuming managers aren't taking older staff out the back and shooting them, why do the years of long activity of making games involve so few individuals over 40?

Here are a few guesses...

1. Technology changes quickly
I've met bank programmers writing in COBOL, a language my father used in the 1960s. In contrast, game platforms change every five years. The graphics programmers of the '90s who wrote software renderers might feel at home again today, but in between hardware acceleration changed everything. Similarly, many artists who survived the transition from 2D to 3D have struggled with shaders.

2. Making games is insecure
Game development is now an established industry, but most studios exist on a whim and a prayer. That's as true for the in-house arms of the big publishers as for independents. Perhaps developers in their 30s don't want to risk moving house every few years.

3. Maybe it's boring
Unless you're working on a killer title, a lot of game development is by-the-numbers. Young people who dreamed of creating the next big thing can find themselves modelling kids' characters and wondering what it's all about. Churning out art assets by rote or making maps while some legend turns his vision into reality must pale.

4. Young people want it more
In all creative industries there's a never-ending supply of bright young things hungrier than you. They work the extra hours, do their own projects, talk shop non-stop, and dream of making it big. But by definition most don't, which leaves a lot of jaded thirty-somethings looking forward to the Sunday papers and ready to be supplanted.

5. Making games ruins your life
Remember EA Spouse? Not only did she marry a game developer – social suicide until recently – she actually wanted him around. Crunch isn't the problem it was, apparently, but making games still involves worse hours and less stability than many careers. It's the nature of creative activity, and it can burn you out.

6. More money elsewhere
To get into making games, you need to be pretty special to see off the competition. Given the drawbacks, you might eventually decide your valuable talents could be better rewarded. The best programmers can earn six figures in the City. (Game designers would seem to have less transferable skills. Perhaps they end up robbing banks.)

> ***"Maybe it's not the workforce that needs to mature, but the games instead. For every Fable II or GTA IV, there's a dozen shallow and repetitive titles."***

7. Chicken and egg
If you're the oldest guy in the studio, you may not relate to the young bucks with their clubbing and albums that sound like Elizabethan plays. But, if more older people stuck around, then they would encourage more of their generation to stay too.

8. The old guys are drowned (out)
Perhaps people don't actually go anywhere, but the industry has grown so that the oldies are diluted by young recruits? I can certainly think of many developers from the 1990s still in the business, but they are generally the 'names' – studio owners and key creatives who achieved some fame. What about the rank-and-file?

Metal Gear Solid's Old Snake grew old prominently – will the industry's workforce?

The age old problem
The physical reality of age clearly isn't the problem compared to footballers, glamour models or pop-stars. The most famous game makers are veterans like Peter Molyneux and Will Wright, and, with respect, they'd stick out like prunes in a pot of olives in that Ubisoft photo.

On the other hand, some semi-creative office jobs like advertising are notorious for unspoken ageism. If you're not running an ad agency by 45, you're retraining. Yet other creative industries do seem to value the old – movie-making (though not actress-ing) springs to mind.

Maybe it's not the workforce that needs to mature, but the games instead. For every *Braid*, *Fable II* or *GTA IV*, there's a dozen shallow, repetitive and derivative titles.

Older gamers often say they've seen it all before. Perhaps developers hit an age when they feel they've made it all before, too.

Owain Bennallack is executive editor of *Develop*. He edited the magazine from its launch until its February 2006 issue. He has also worked at *MCV* and *Edge*, and has provided consultancy and evaluation services to several leading developers and publishers. He is also chairman of the Develop Conference advisory board.

COMMENT: DESIGN

The Revival of the Movie Tie-in

by Billy Thomson, Ruffian Games

In the past, games based on movies have almost always been poorly received by the games industry. I have no doubt that a large percentage of those games have actually made a significant profit but, while they have likely been commercially successful, I have struggled to think of any that were critically successful.

These games tend to have big sales due to the fact that they are based on, and released at the same time as, an incredibly successful movie. They are also entirely targeted at children, who are generally less concerned about how well a game plays – if the main characters of the movie are present and playable they tend to be happy. Your average gamer – and even more so game reviewer – requires far more depth and varied gameplay to be suitably entertained.

This year *The Chronicles of Riddick* was released to decent if not great reviews which showed the games industry that good games could be made from movie franchises, but it wasn't until Rocksteady released the excellent *Batman: Arkham Asylum* that the industry stood up and took full notice of what can really be achieved if the right decisions are made during the design phase of the game.

BAT THINK

When I look at *Arkham Asylum*, one of the things that strikes me is it's not based on any of the massively successful movies. Rocksteady based its game in the Batman universe rather than tying it directly to a movie. While the game is undoubtedly a fantastic gameplay experience, I still believe it was a brave decision to forego the option of a movie tie in. There are definitely upsides to going it alone, but you are turning your back on some massive benefits that a movie tie can provide. Regardless of whether or not you tie the game closely to a new movie or not, the connection to the franchise will provide certain opportunities and development risks in almost equal measure.

If the game is linked to a specific movie you will have a full story arc written, a full cast defined in great detail, locations will be well described, and you will have a selection of action sequences to choose from. Depending on how much of a control freak you are, these could either be blessing or a curse.

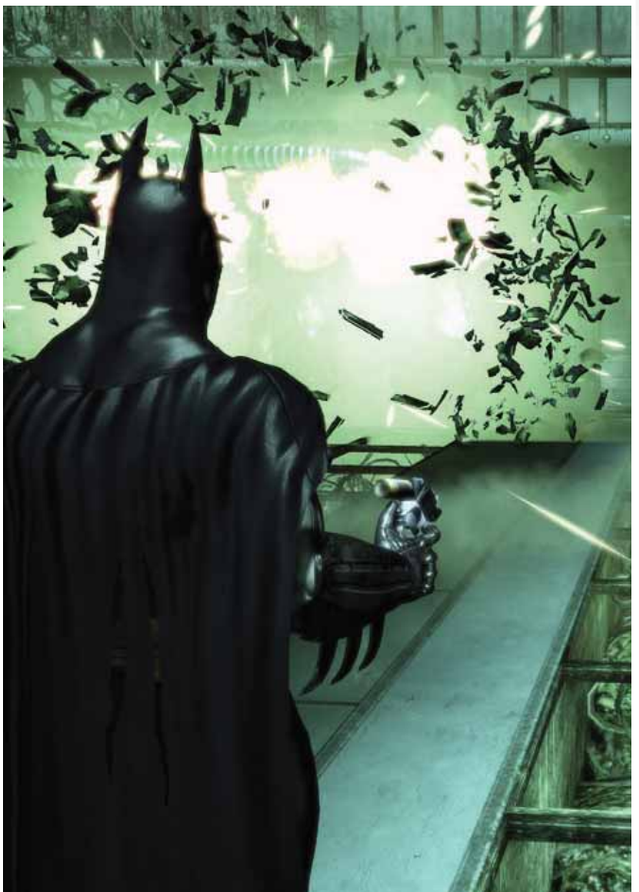
Potential sales have to be the biggest benefit, with the opportunity to surf the wave of the huge marketing spend that inevitably goes with the release of any big budget movie. On the flip side you now have an unmovable release date, which can be a killer, as those few additional months at the end of a project can turn an average game into an amazing game. If you have no chance of the release date moving even by a few months, then this can be a daunting realisation.

Another positive is the connections the movie publisher will provide. You'll have the best in the industry for high quality cutscenes, voice acting, motion capture, talented composers for musical scores – basically everything you would ever need to create a triple-A video game.

> ***"When Rocksteady released Batman: Arkham Asylum, the industry took full notice of what can be achieved if the right decisions are made during the design phase."***

Movie franchises also have large pre-existing fan bases which provide an already captivated audience so sales should be high – although the risk is that big fans of large franchises tend to have big expectations. This makes it risky as a designer to try to put your own distinctive mark on the game for fear of alienating your audience. This potential lack of creative freedom is possibly the biggest downside as a designer. You will likely be working with a writer, and or director, who is understandably more focused on the need to drive the story of the movie than they are of creating fun features and objectives that would benefit the game, especially if they stray too far from the direction and setting of the movie.

Regardless of these upsides and downsides I still think it's fair to assume that we are about to see a new range of movie tie-in games now that Rocksteady has shown the game and movie executives that great games – with big sales – can be made from movie franchises. If I'm correct, is it too much to expect to see the production cost of games equalling that of the movies? Or will the movie executives continue to expect the games to surf the big budget marketing launch of the movie that the game is based on?



Rocksteady's Batman: Arkham Asylum shows licensed games can feature great play experience

Personally, I think it's too early to see games getting the same financial backing as the movies. Either way, there are some fantastic movie franchises out there that could provide the perfect setting for a slew of superb new games, and I'm looking forward to playing them.

Billy Thomson is the creative director of recently-formed developer Ruffian Games. Billy has over 13 years experience of designing video games, including design roles on *Grand Theft Auto* and *GTA2*, before working as lead designer on Realtime Worlds' celebrated *Crackdown*. **www.ruffiangames.com**

COMMENT: CODING

Rear-view mirror

by David Jefferies, Black Rock Studio

Three and a half years is a long time in video game development. During that time our studio completed the transition to the new generation of consoles, released three titles, joined Disney and turned into Black Rock Studio. Usually when I write this column, I choose a topic that's currently the focus of much discussion in the studio.

Back in the summer of 2006 we had recently finished *MotoGP'06* for the Xbox360. It was our fourth MotoGP game and the first for the new generation of consoles that had launched a few months earlier. We invested most of our efforts in a complete graphics overhaul. Like the other development teams working on titles near the console launch, we had to make bets about what graphic technology would define the new generation without the luxury of seeing what had worked for those that had gone before.

We eventually settled on upgrading our lighting engine, which I documented in this column with articles on Lightscattering, High Dynamic Range, Bloom and Shadows. We also encountered another problem that would become endemic on this hardware – that of data size explosion. Halfway through the project our 'nightly' builds were actually taking all night and most of the next day, and our 100Mbit network that had served us well up until then started to creak under the pressure of all the data.

This prompted an article in this column about Distributed Data Builds, describing how we refactored our build system into a job manager that distributed the build jobs to as many machines as it had available.

There was also an article about Scalability, discussing how the use of higher-order surfaces and texture scaling meant we could 'dial' the complexity of the data set up or down. This was particularly important with early hardware that kept evolving with no-one knowing what the final capabilities would be.

ROCK ON

In October 2006, Disney bought our studio, Climax Racing, and we renamed ourselves Black Rock Studio. Disney had big plans for investing in the studio and they wanted our ambition to grow with it. While our team carried on working on *MotoGP'07*, elsewhere in the studio *Pure* was being developed.

Team sizes started growing and we changed our team structure – so instead of being partitioned into art, code and design we formed teams consisting of all three disciplines that would be responsible for entire features. At the time these articles were all about how to deal with big teams.

Then in the summer of 2007, after we had launched *MotoGP'07*, we embarked on our most ambitious project to date, *Split/Second*. The challenge was to create a new toolchain for generating the assets for the action sequences in the game. The continuing trend of asset creation being the bottleneck in games production can be partially addressed by more powerful, streamlined tools but the trend will surely continue.

Split/Second has extremely ambitious visuals which prompted another render engine overhaul. I've been writing about our experiences over the last six months with articles on everything from Deferred Shading to Colour Banding, to Stereoscopy. Gameplay might be king, but many of the challenges of this industry still revolve around the asset generation and rendering required for high fidelity graphical images.

> ***"The Split/Second team is working on shipping the title, with just a few months to go, we are in a critical period. I need to concentrate all my efforts on helping make it our best game ever."***

Looking to the future, we're trying to mitigate the main technical problem that keeps coming back at us – data size. We had one crack at this a couple of years ago when we wrote our distributed build system but, since, our export times have continued to climb and our source assets just get bigger. Some of this can be solved by hardware – the *Split/Second* server farm has 256 processor cores and a terabyte of on-board RAM – but this doesn't help the iteration time of our artists and designers.

Dave races off in to the distance... See ya!

To improve these times we're currently working on making all of our pipelines live update friendly. Hit save in the tool and, in the background, the asset will be saved, exported, deployed to the console and appear in-game without having to restart the level. It's not rocket science, but it's something we've never had before. It is a big job for us, so we're starting with some of our simpler pipelines such as Colour Cubes and then expanding from there until it works for every asset type.

TIME TO SPLIT

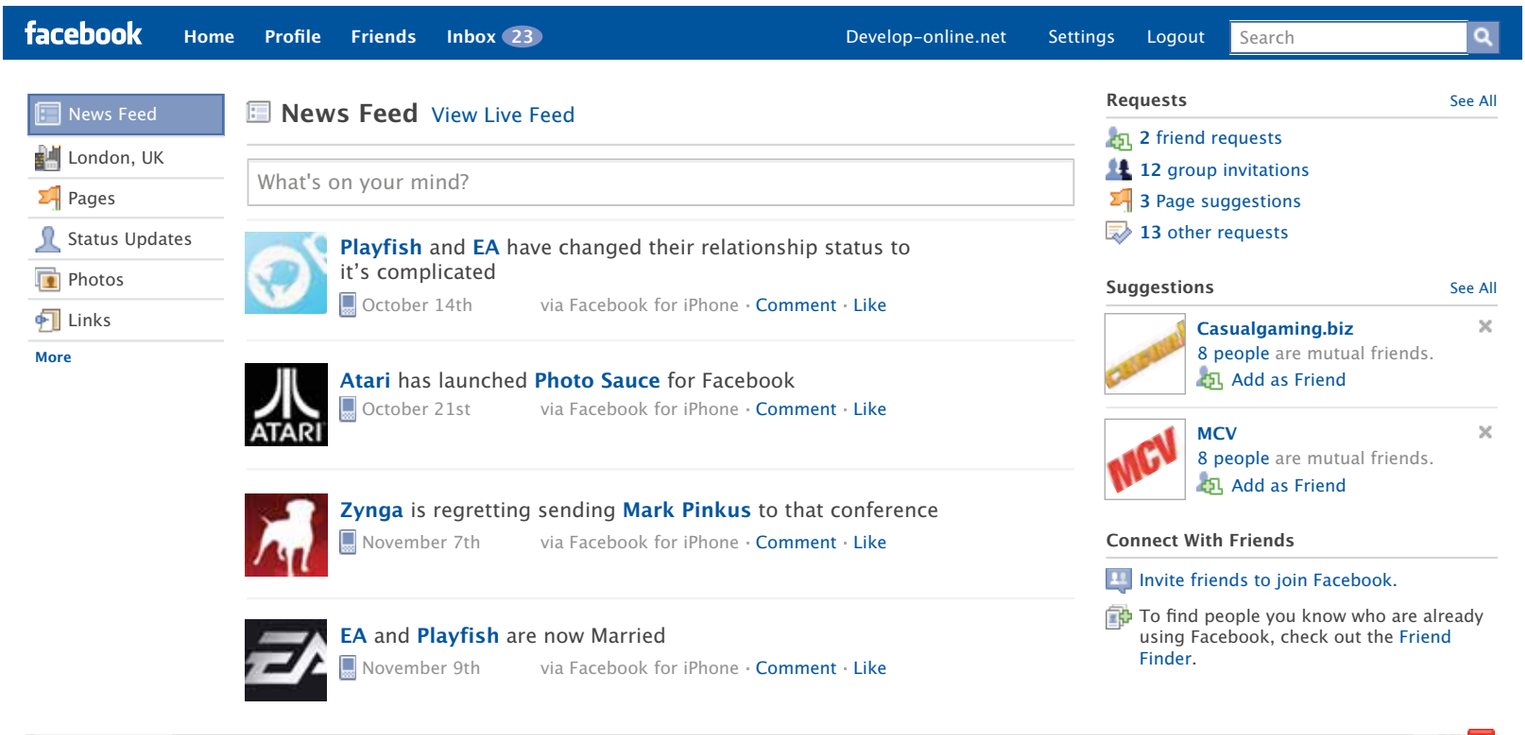
While our Core Technology team is making that happen the *Split/Second* team is working on shipping the title. With just a few months to go, we are in a critical period. I need to concentrate all of my efforts on helping make it our best game ever, so unfortunately this is going to the last article I write.

It has been a pleasure writing them, thanks for reading them, and good luck developing video games.

David Jefferies started in the industry at Psygnosis in Liverpool in 1995, eventually working on *Global Domination* and *WipEout 3*. He later moved to Rare where he worked on the *Perfect Dark* and *Donkey Kong* franchises. Next came a move down to Brighton to join Black Rock Studio (which was then known as Climax Racing) in 2003. On this generation of consoles he's been the technical director of *MotoGP'06* and *MotoGP'07* before starting work on new racer *Split/Second*.
www.blackrockstudio.com

Why Facebook is a ga

Forget PS4 – is Facebook the new gaming platform of the future? **Nicholas Lovell** puts forward an argument…



The most popular game in the world in October was not *World of Warcraft*, it wasn't *Guitar Hero* , nor was it a first person shooter.

It was a game based on farming.

Not even *Modern Warfare 2* can knock *FarmVille* off that pedestal. *FarmVille* has seen a level of growth unprecedented for any game. It was launched by social games publisher Zynga on June 19th and within two months had over 33 million players. By the time you read this, it will probably have passed the 70 million user mark.

FarmVille has changed the perception of social games. It may also mark a fundamental shift in usage of Facebook, as the social network emerges as the gaming platform of the future.

SOCIAL MEANS MORE USERS

An obvious reason for *FarmVille's* success is simply that Facebook has over 300 million users. Some reports put the figure at 330 million. Compare that with an installed base of 100 million Nintendo DS units or 25 million PlayStation 3s. Any game developer should be trying to put their content where the users are, and on that measure, Facebook is the winner.

But that's not enough of an answer. There are at least 40 million iPhones and iPod Touches out there, but for a game to reach a penetration rate equivalent to *FarmVille's* 20 per cent or more, it would need to sell around five million units.

> ***Facebook has over 300m users. Compared with the 100m Nintendo DS units sold or 25m PS3s, it's clear developers should focus on Facebook.***

FACEBOOK GAMES ARE FREE

iPhone games cost money, except for the extremely popular Lite versions, whereas on Facebook, games are free. This is a very powerful price point for attracting new users. The Facebook gaming model allows users to experience games for a long time without paying a penny. The key benefit of this is that it reduces the need to spend substantial amounts of marketing money to overcome the hurdle of getting users to shell-out cash for projects.

Being free doesn't necessarily mean that you will get users, though. There are plenty of great games on Facebook, and it can still be tough to stand out from the crowd. Zynga is one of the top ten advertisers on Facebook, and shelled out at least two million dollars to seed the initial success of *FarmVille*. Latest rumours suggest that it has spent between $50 million and $100 million in advertising in 2009, a substantial proportion of its estimated revenues of $200 million.

FACEBOOK GAMES ARE PROFITABLE

Free does not mean unprofitable. Facebook users have become accustomed to the freemium model, whereby they have the option of paying for virtual goods, which might give them special powers, accelerate the levelling-up process or allow them to express their identity.

Numbers for Facebook games are hard to come by, but across the web, many freemium games are generating ARPPU (average revenue per paying user) of around $20, with some users spending hundreds of dollars a month.

The key advantage of microtransactions over subscriptions is that there is no upper cap to how much money a user can spend on your game. It is not a binary choice between naught and, say, £4.99. It is a sliding scale between zero and a very large number

ming phenomenon

indeed. Bigpoint, for example, has several users who spend over one thousand dollars each month on virtual items in their web-based games such as *Dark Orbit*.

The downside is that the revenue is not as predictable as subscriptions, but if you are a good game designer, you should be able to make substantially more money from microtransactions than from traditional subs.

Companies like Playfish and Zynga are both profitable and have been since inception, although both firms have raised substantial venture capital.

FACEBOOK GAMES ARE TRACKABLE

At the Games Gone Wild event in London earlier this year, CEOs of social and casual games companies like Playfish, Jolt Online, Mind Candy, CyberSports and eRepublik were unanimous – the secret of success in this sector is metrics. Kristian Segerstrale of Playfish said that the toughest people to find right now were the analysts who could sort through the 300 to 400 million datapoints that his company generates every day to determine how to improve gameplay, stickiness and, crucially, conversion to making virtual goods purchases.

A Facebook game is endlessly tweaked. Developers try different colour buttons or slightly different text to see if it has an effect on conversion rates or ARPPU. When you have 50 million users, an increase of a fraction of one per cent can have a very substantial impact on the bottom line.

FACEBOOK GAMES ARE PROTOTYPES

Facebook games are only 20 per cent complete at launch. That's not much more development than that required to get a traditional console game to a vertical slice prototype. The only difference here is that the vertical slice is not put in front of a green-light committee of suits and producers – it's released to the end consumer immediately.

Developers gain in many ways, as they get to test the product in the wild; they can generate revenue from day one, and they keep their own IP. Perhaps most crucially, they can see very quickly whether their game idea has traction, in which case they should throw more money and resources at it as fast as possible, or whether it's actually a rubbish idea that punters don't like and should be trashed so that the developer can move onto a new project.

The idea of 'fail fast, fail often' is common to web startups but a new concept for many developers. Facebook makes this possible and is a crucial first step for developers trying to move away from a dependence on publishers.

> ***"Facebook games are endlessly tweaked. When you have 50 million users even a fractional increase in average revenues per user can have a substantial impact on the bottom line."***

FACEBOOK GAMES LEAVE FACEBOOK

The most interesting development at Facebook is Facebook Connect. It allows developers to use the social media site's credentials and a user's social graph outside the core Facebook website. Many blogs now allow you to register and comment using Facebook Connect, and I think many games will start allowing users to login using Facebook credentials.

This blows the market wide open. Instead of having to create a Facebook app, with all the limitations of layout and design that entails, developers can get the best of both worlds: a game on a separate website with more flexible technology combined with the viral effects of the largest social network in the world.

Combine with Facebook's ongoing efforts to make a simple, trusted billing system and I think that Facebook has the potential to become the gaming 'platform' of the future.

Nicholas Lovell is the founder of Gamesbrief (www.gamesbrief.com), a blog about the business of games. He is non-executive director of nDreams and advises a number of games companies including Atari, Firefly and Rebellion on their business and web strategy. **www.gamesbrief.com**

The red-hot world of social games

THE WEEK BEGINNING November 9th 2009 was a red-letter week for social games. Even the most ardent sceptic had to sit up and take notice.

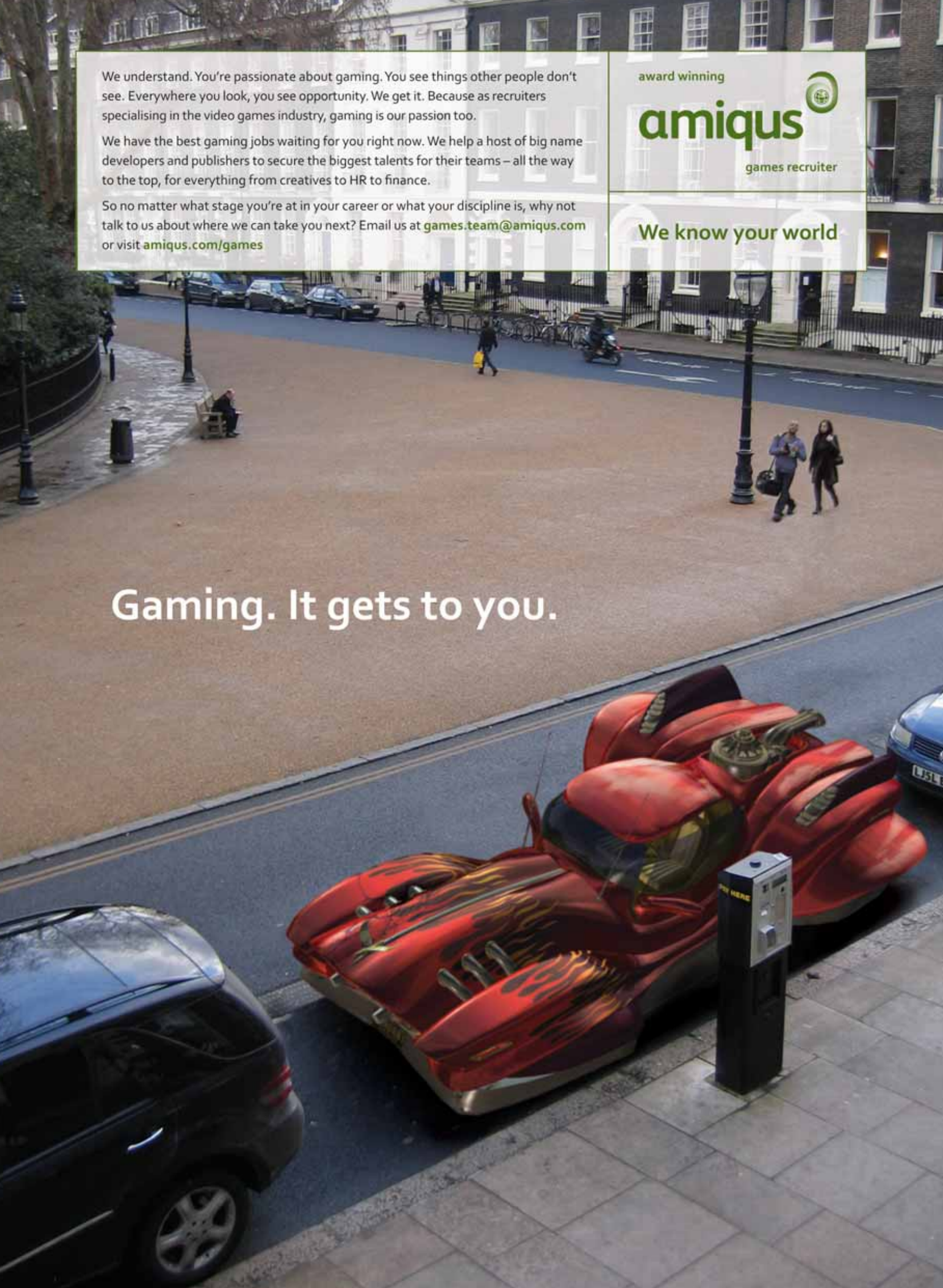
The week kicked off with the acquisition of Playfish for $275 million in cash, $25 million in equity retention arrangements for key staff, and up to $100 million in earnout over the next two years. While the valuation seems staggering for a company that was just celebrating its second birthday, I think it's a steal. Approximately five times revenues for a fast-growing, profitable company with a superb management team, strong track record of high-quality games and, above all, addressing a massive strategic hole for Electronic Arts.

Overshadowed by the Playfish announcement was the acquisition of a majority stake in Jolt Online, the web (not Facebook) home of *Legends of Zork* and the upcoming Playboy MMO, by GameStop, the US bricks and mortar retailer.

As if that wasn't enough, Playdom, the third largest player in the social games space after Zynga and Playfish, raised $43 million at a valuation of $260 million. Not content with fundraising, Playdom also acquired Green Patch, developer of top Facebook games like *(Lil) Green Patch* and *(Lil) Farm Life*, and *Trippert Labs*, an iPhone developer.

Finally, Balderton invested €5 million in Wooga, a Berlin-based Facebook developer of games. Balderton has a lot of game/virtual world investments, (*Codemasters, Habbo Hotel, NaturalMotion, Wee World, Metaversum*) and in any other week this would have been big news for the social games sector.

Yet, not in a week when so many jaw-dropping deals were falling like November rain.


We understand. You're passionate about gaming. You see things other people don't see. Everywhere you look, you see opportunity. We get it. Because as recruiters specialising in the video games industry, gaming is our passion too.
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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

"I had to show how Space Invaders impaced gaming culture..."
Reisuke Ishida, Taito, p60

The 30 brightest young things
p27

Inside the London game dev scene p33

THQ and 4A's novel idea: Metro 2033
p55

Men United

How three men started a games development revolution from their basement, p20

United they stand

It's safe to say that Unity is one of the hottest technology companies around – but it's from humble beginnings that they've come his far. **Ed Fear** sat down with the founders to find out more…

Above: The founders of Unity – Nicholas Francis (left), Joachim Ante (centre), and David Helgason (right) – relax at the Unite 2009 conference in San Francisco, which this year attracted almost 400 people.

The formative years of the UK's game development industry – and, indeed, the global games market as a whole – are littered with enterprises started by people in their bedrooms, basements or garages. Jagex, Rebellion, Blitz; big contemporary companies started not specifically to become gigantic studios, but to make a modest living from doing what their founders loved: developing games that they, and hopefully others, would enjoy playing.

The game technology market, however, is not quite so innocent. Look at the companies making waves in the space, big or small, and you'll see that for most their roots lie not in such humble abodes, but in university research laboratories or existing studios. Call us cynical, but the incendiary spark lighting the touch paper at these firms appears not one of creativity or a desire to do what you love, but of realising you have something of value on your hands.

Perhaps it's unfair to compare a largely creative endeavour with one mostly concerned with engineering; a whole creative vision with something designed to underpin said vision. Motivation aside, the lack of home-grown game technology is palpable.

MEN UNITED

Unity Technologies, however, is a little bit different – but then, that's exactly what's made the company so popular. Its engine, Unity, has grown from an obscure Mac-only game engine to a multi-platform system firmly placed on the cutting edge of online, casual and increasingly console gaming.

While the W3 Consortium and Google rush around trying to standardise in-browser 3D, Unity has – for several years now – been offering native performance and hardware acceleration in a small plug-in that's already installed on almost 20 million machines. While middleware companies have been slowly waking up to the iPhone market, Unity had a fully featured version of its engine available less than a few months after the App Store's launch. Unity for iPhone has, at the most recent count, powered over 325 titles, including *Zombieville USA*, one of the platform's major successes.

So what is it that has made Unity so different? It could perhaps lie in the genesis of Unity: that prototypical back bedroom or, in this case, a basement in Denmark.

But we're getting ahead of ourselves a little. Ask the gentlemen behind Unity where the story begins and you'll get a number of answers, but the real first step happened at 1:47am on May 21st, 2002. In Denmark, a programmer by the name of Nicholas Francis – now CCO – posted a message to the Mac OpenGL mailing list asking for advice on a shader programming system he wanted to integrate into his game engine. Several hours later and few hundred miles away in Germany, Joachim Ante – then in his very early twenties, but now chief technology officer – replied to that post, kicking off a conversation that would result in the two deciding to collaborate on a general-purpose shader system that would work on their individual engines.

> ***"We always had very big ideas. We were very focused on the fact that we were going to make a game and then licence out the technology."***
>
> Nicholas Francis, Unity

"After a while, we decided to scrap our individual engines and make an engine together, because it's more fun when there's two of you working on something," reminisces Francis when we catch up with him in San Francisco, where the company is now headquartered, during its Unite conference. "And then shortly afterwards David joined."

CEO David Helgason, the third and final piece of the puzzle, was also based in Denmark. "You and Joachim decided to merge your engines with the idea that you'd get twice as much engine at the same cost, which was incredibly naive," laughs Helgason.

"This engine now had to be super-flexible and able to tackle different types of games, making it much more complex to create. But it seemed like a good idea at the time, and I thought you guys were really onto something, so I jumped on board as the third developer."

EDGE DETECTION

In truth, though, the three of them weren't building an engine for the sake of it: they aspired to be game developers, and saw the technology as the first barrier for them to overcome. In fact, although the engine became known as Unity quite early on, the company was known as OTEE – Over the Edge Entertainment – until 2007.

"We always had very big ideas," says Francis. "We were very focused on the fact that we were going to make a game and then licence out the technology – we felt that the game was necessary to prove the tech. But, to be honest, we kept on slipping past our self-imposed deadlines."

Helgason interjects: "In the end, we did what engineers tend to do: rather than following our goal of making games, we ended up making a tool to make games. It's a classic mistake. It happens all the time, but once in a while it's actually a good thing and something great comes out of it."

Development of Unity really picked up the pace, however, when Ante moved from Germany to join Francis and Helgason in Copenhagen. Ante and Francis rented a flat together, and it was in the basement that the three of them created Unity.

"I actually lived just around the corner," Helgason laughs, "but I was very rarely there. There was pretty much always two of us working on Unity and the other one would be sleeping, round the clock. I couldn't afford to live without any income at that time, so I also had a job in a local cafe, which worked out really well because I could bring back food for the others."

BEST MADE PLANS

It's the sort of schedule that anyone who's thrown themselves into a home-grown project will relate to and, as Francis and Helgason reminisce, it's clear that they were good days. It was also at this time that the business plan for Unity began to emerge, although it came from typically rough beginnings.

"I think that, right at the beginning, we decided that we would take turns at being CEO, but we quickly worked out that would never work," says Francis. "At one point we even put an advert out there: 'Have great tech, need CEO'. We got some guys from the Copenhagen business school apply for it, but they all ran away pretty quickly."

And so, being the outgoing one, the role fell on Helgason's shoulders. "The thing is, as we learnt about the industry and what we had to do, all the people we found who could run the business for us were slightly behind the curve compared to us – even though we weren't all that far ahead," he explains.

"But we learnt the ropes and figured out what we were doing, and it took a long time to do so. I think it's sometimes good to come at it with a fresh mind. Programmers have very analytical mindsets, so I think we can kind of figure it out."

"It's really just common sense a lot of the time," adds Francis. "But we also had this kind of 'intellectual darwinism' going on at the company – we'd just debate things until we all agreed."

Helgason mentioned in OTEE's first business plan a British developer as its model for future growth. That company was Criterion, then still independent and tearing up the PS2-era middleware market. In an interesting twist of fate, several years later, Criterion's then-CEO David Lau Kee would join Unity as non-executive chairman.

"In those early days, we looked uphill and we saw Criterion. Their model, along with the other giants of the time like Unreal and id, was not just about having the technology, but also about having really good sales guys and having multiple big products already using your technology. Otherwise nobody would feel confident enough to buy it.

> ***"We realised that, while triple-A gaming wasn't going away, it was only growing at a slow rate. What was going to grow was casual and online gaming."***
>
> David Helgason, Unity

"So it looked like this very complex, very expensive uphill battle. But also we realised that, while triple-A gaming wasn't going to go away, it was only growing at a slow rate – it wasn't stagnant, but it was like a few per cent per year. What was going to grow was casual gaming and online gaming. I mean, this was before the concept of a casual MMO, but it felt like things were going to go in that direction."

And so the team decided to target this market, but be as professional as possible: provide proper support for developers, smooth out all the rough edges, and to ship with comprehensive documentation. Helgason retrospectively calls this 'the biggest bet in the company's history', but admits that at the time it didn't feel like one.

"It turns out that we made really good decisions at the start, because we've not really changed things since: we've tweaked it a little, but that's it."

Above: The Unity team in 2005, right at the time of Unity 1.0's launch

But it's not just in business that the early decisions proved fruitful: almost everything that Unity is now praised for – its innovative approach to workflow and hot-updating raw assets, the intuitive editor – was in there right at the beginning.

Helgason puts some of that down to their Mac background: "We came from a Mac side so I guess we were encoded with that philosophy of that polish, that simplicity, that clarity that Apple's software has. That was with us from the beginning. And then, quite early on, we figured out those key concepts of workflow.

"That's the real innovation behind Unity – I mean, the rest is really well done, but it's the workflow was just super-innovative. Nobody had figured out this concept of swallowing in whole assets from any application, using them, and updating them when they're saved. That was in super early, really early, and the product grew around the pipeline. It was in so early that we could import a multi-layer Photoshop file before we could even draw a mesh."

CATCH AND RELEASE

In 2005, the first version of Unity was finished and released onto an unsuspecting market. But it wasn't until a year after that, at version 1.5, that the team really admit that the product was actually all there; until then it couldn't create Windows-compatible games, nor could it create games to be run in-browser.

With no marketing budget – Helgason says that they 'probably would have fucked it up somehow' if they'd allowed themselves one – the three of them worked on supporting those who did come on board to their utmost.

"We were developers developing for other developers," says Francis. "We understood their problems and tried to fix them; we spoke to them. It'd be a case of not being able to sleep at night and thinking, 'I wonder

Below: The Unity Technologies team, November 2009 (and that's not even all of them)

Above: One of the smaller sessions at Unite 2009.

Inset: Cartoon Network used Unity to create its FusionFall browser MMO.

what's going on on the forums.' It was all hours of the day. I think they recognised that, and then those customers we had started evangelising it for us."

Nevertheless, there were very few around in those days, admits Helgason. "Aside from a few indies and hobbyists – the smaller end of the market, those with less to lose – no-one was stupid enough to buy it. Because, of course, it took a while to prove to anybody that this would get supported, updated, and developed further by us.

"For all they knew, we could have followed the pattern: game company makes a game, game doesn't do that well; so they try to sell the technology behind it until they get bored and move on. So we had to kind of prove to people that that wasn't what was going on here. That actually took about two years."

WORLD WIDE WANT

What did capture people's attention was the web player: coming as the casual gaming scene exploded into popular consciousness, suddenly browsers were capable of going beyond Flash's attractive-but-sluggish vectors and into hardware-accelerated 3D games. Do they feel like they kickstarted the 3D-in-browser revolution, something that's now being ratified into proper internet standards?

"No, not really," answers Helgason. "Virtools was already in the browser space, and Director too. So we weren't the first, we were just way better. Director had gone stale – for 2001, when the 3D stuff released, it was quite good, but they didn't follow technology and they never got the tools right – it was all driven from code. Virtools just never got their polish together; the plug-in was big and clunky. On paper they looked formidable; we were scared of them. But nobody really mentions them anymore."

Part of the reason that both those technologies are now marginalised, while Unity flourishes, may be that aiming at games – and therefore at the top – has left the door open for other uses, Francis suggests.

"In the past few years people have realised you can take game engines and do all sorts of stuff with it, but it doesn't work the other way. It's completely natural for architects to do pre-vis in a game engine, or scientists to do data visualisation with a game engine, but you'd never make a game from a CAD program – and certainly not a browser-based MMO or something. So I think that, in that sense, it's been really good for us to focus on games – it really makes you push the bar technology wise."

> ***"Aside from a few indies and hobbyists, nobody bought [the first version]. It took a while to prove that it would get supported and updated by us."***
>
> David Helgason, Unity

And if your eyes are glazing over at the the thought of non-game applications and their overall relevance to the business at large, Helgason is ready with a surprising statistic: according to a recent audit of its customers, a third of them aren't making games with Unity, with applications ranging from data visualisation to interactive art installations.

THE MACS FACTOR

But, in truth, there was something holding Unity back: the development tool was still only available for Macs, and although they were attracting customers, having to spend as much on hardware as a Pro licence was proving somewhat of a stumbling block.

"If you look from about early 2008 to spring 2009, so many of our customers were buying Macs. It was so clear that people were being convinced about the technology, but had to buy this really expensive 'dongle'," laughs Helgason. "They weren't super thrilled. Some of the big studios that bought Unity were having problems because their IT departments were saying, 'No, you can't connect Macs to our network. It's outside protocol.' So there were several studios where they'd have a special router going out through the wall, but they couldn't access company e-mail or anything."

So it became clear to the team that they really needed to support the PC, but that meant rewriting the whole editor from

EA has also adopted the tech for its in-browser Tiger Woods experience (adultery not included)

Left: The latest version of Unity added a new animation editor, plus screen-space ambient occlusion

scratch – something they refer to as the second big risk that they ran. "We tore it all the way down and built it back up again," says Francis, who did much of the work himself. "But it had to be done, and the editor is definitely now much better for it."

FOR THE WIN

Unity launched the first version with Windows support, version 2.5, at GDC 2009. Since then, both the engine and the company have been firing on all cylinders. In autumn 2008, there were approximately 18 people working at Unity Technologies. By the time GDC 2009 came around, it was about 30. Now the company is almost 60 people across five offices, and still growing rapidly as it seeks to ramp up its support efforts and spread the tech to new platforms.

To go from three to 60 within five years is quite the growth spurt, and it's fair to say that it's caused some sleepless nights for the original founders.

> ***"To see the reasons not to do something, and to do it anyway, can be a really important lesson. Google Fridays have been great for that."***
>
> Nicholas Francis, Unity

"It's been a real change," admits Helgason. "I mean, middle-management – are you kidding me? HR coordinators? But actually you find out that, as you grow, you have to change things to keep things the same. If you want to have a free flow; if you want your developers to free to make cool stuff, you need some kind of infrastructure around it – but you don't need that structure when you're 16 or 19 people, like we were last year. So it's been a big change, but at the same time doesn't feel like it's changed the company that much."

One of the real efforts that the founders have made, explains Francis, is to keep what they call the 'crazy nerdy culture' that catalysed the whole thing while growing so as to accomplish more.

"One of the best things we've ever done was to instate Google Fridays. So, on Fridays, you can do whatever you want. Obviously, if we're crunching then it's all hands on deck, but for most of the time people are just working on this crazy stuff.

"As you grow you find that, if you have a good idea, there's more and more reasons not to do it. So that's why we do this. People are allowed to work on their own projects, even if we think they're bad ideas. I think that's really really important, because to see the reasons not to do something – and to do it anyway – can be a really important lesson. Google Fridays have been great for that. Even I really look forward to Fridays now, because that's when I get to work on the fun stuff."

It's this attitude of fun stuff that has brought Unity to where it is today, both as a company and as an engine. When most middleware manufacturers were spending their efforts on bigger and better polygon counts, the three guys behind Unity were making something they wanted to make, and a web player that would enable everyone to play games anywhere with little effort. Maybe it's fitting, in a sense, that Unity – the tech that many believe is on the precipice of revolutionalising the industry – is one with 'fun' underpinning every line of code.

www.unity3d.com

FREE STYLE

MERE MINUTES BEFORE WE caught up with David Helgason and Nicholas Francis, the duo – joined by CTO Ante – took to the stage at the opening keynote of their Unite conference and dropped a bomb on the audience: the entry-level Indie version of Unity, until then sold at $199, was to be made completely free.

When we meet, Helgason is still slightly hyper from the announcement – or perhaps more accurately, the audience reaction. The first question that entered our minds, and one we wrote about last month fresh from our tip-off, was that this surely meant that the firm's revenue from the Indie version wasn't something that they were depending on.

Indeed, that is the case, Helgason told us. "The revenue from the Indie version wasn't a significant part of our revenues. In the early days it was more significant – it probably started out at 50 per cent or more, but it's been sliding and sliding and, while it's real money, it's not something we're dependent on at all."

"We sat down and did the math and realised we were making far more money upselling indie," adds Francis. "So we thought, well, maybe we should just get this out there as widely as possible."

But as much as they may say there's a commercial reason for doing so, in truth, it comes back to the company's love for the community – something that they can (and do) use as a selling point when attracting the EAs and Funcoms of this world.

"Those guys are so valuable to each other, so helpful, but you never know who's going to be a valuable member of the society until they come along," Helgason explains. "So we thought, well, let's invite them all. And EA didn't know about the move until the keynote either, but they said that it was awesome, because they saw it as a bigger pool to hire from. These people will train themselves.

"Over time it's going to be valuable for the whole industry, having more people that are proficient with professional tools. A lot of universities are using Unity but a lot also aren't, and whether they're using something like GameMaker or building their own stuff, they're not going to get the experience of the full pipeline that way. With Unity you can get acquainted with every single part – whether it's game design, or shaders, or optimising, or AI stuff. I just think it's going to be a healthy thing for the industry."

The announcement came mere days after the company revealed its $5.5 million dollar investment from Sequoia, investors in the likes of Apple, Cisco, Google and YouTube. How did they as investors feel about taking something that generated revenue from the company and making it free?

"It's a point where we and Sequoia totally shared a vision. When we first mentioned it to them, they were like, 'Awesome, let's do it' – and then obviously they had some questions," Helgason laughs. "But the idea of taking this advanced technology and spreading out to everyone is so obvious, both to us and to them."

Insourcing

With more studios owning their own satellite studios in emerging countries, **Develop** asks Monumental's David Tolley about how integrating foreign teams within your own company can bring benefits far beyond traditional outsourcing…

Above: The Monumental team is a mix of diverse and talented individuals

How many people do you have working at your Indian office?
We currently employ a team of ten artists. The studio is made up from a good cross-section of skill sets, but in addition to their specialties we vary the work between the team to keep it fresh and interesting. The team structure is pretty straight forward and is headed up by our art lead, who is responsible for day-to-day dealings with me in the UK.

Now we have proven to ourselves that the off-shoring model works, we are preparing for a phase of growth and hiring teams to work over multiple projects.

What sort of jobs are they specifically doing as artists? Is it high-level work?
As with our UK-based teams, we use the full range of skills available in India which makes them integral to our titles in development. Currently they are working on high-end game assets for one of our console based projects. It's a popular misconception that overseas staff are used for donkey work, but I've spent years rallying against that.

A few years ago it was common to send only certain types of work out of the studio, but with big developments in communication, plus the fact that overseas staff are gaining experience, it has become possible to delegate much of the high-end work to these studios too. Again, this type of approach needs the support and understanding of a strong core team in the UK which is essential in helping to manage the art quality and pipelines.

To what extent are they integrated with the team back in Nottingham?
Our offshore team works closely everyday with our main office in Nottingham, so we just see it as an extension of our team here really. The success of the studio depends solely on the relationship it has with our development team, and the support internally from the UK is fantastic. On a day-to-day basis I can pinpoint any problems and deal with staff directly – the work our Pune studio has produced is the legacy of a strong supportive team here.

Integration is something we take very seriously. I personally visit the studio every month or so and often take a UK staff member with me depending on the project or stage of development. We've also flown the Pune guys across here to spend time with the development team and basically get a flavour of the games they are developing.

> ***"We're finding it easier to recruit experienced talent in India as opposed to the UK, a fact we knew would be instrumental in opening up a studio there."***

What do you think are the benefits of having your own studio in India as opposed to outsourcing?
Running our own offshore studio has given us a number of distinct advantages, but really the chief gain is that the team is working solely for us as an expansion to the UK studios. Having an experienced team who is familiar with our tools and processes is a major advantage in that we don't need to retrain or re-educate the staff when moving to new projects. As mentioned, we're planning on growing our offshore team considerably this year, but certainly still plan to use external outsourcing to some degree, mainly because of the immediate benefits of scalability.

How do you find recruiting talent in India – is there a large skilled workforce for you to draw on?
I had already worked in India and knew a few good guys from my visits there, so it was really just a case of contacting some people and going from there. Now we're more established, I have a good network of contacts and there's never a shortage of good artists enquiring about us. A few years ago it wouldn't have been easy bringing together a solid team of artists, and the few experienced guys available were obviously drawn to the big outsource companies in India.

At the moment we're finding it easier to recruit experienced talent in India as opposed to the UK, a fact we knew would be instrumental in us opening up a studio there.

Obviously we look for strong artistic employees who can make a big contribution to our games – not cheap labour. Currently, there are a few good things working in our favour which lets us recruit the best staff – working for a UK company certainly has good kudos, as does working for a developer that gives the guys great insight into game creation, and producing quality games across multiple genres and systems keeps the work stimulating. There are also a lot of talented guys eager to break into the industry and I'm currently working with a number of institutes on developing and opening up real-world opportunities to help exceptional graduates break into gaming.

How much knowledge about running a studio can be ported over from the UK, and how much do you think needs to be tailored for the Indian culture?
There are differences, but it's certainly not a negative thing. Basically we're a UK company so that's the way the business is run in the Indian studio. Everything we do is planned with the Nottingham team in mind. It's a huge culture shock working in India initially, but there's really only one way to develop games, so inside the office it's business as usual.

We do, however, have a lot of respect for the Indian way of life and see it as a great cultural addition to our studios as a whole, with certain things tailored to the Indian way of working. The day-to-day running of the studio is surprisingly smooth considering the distance and time difference, but this clearly comes with choosing the right staff and the ongoing familiarity of processes. Anyone who's been to India knows the unique kind of atmosphere the country has – it's creative, colorful and passionate; and the growing interest in emergent technology makes game development an obvious draw for lots of young professionals.

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30 UNDER 30

It's not just the old guard that are stirring up the games development industry – these 30 young movers and shakers are doing their fair bit too. **Ed Fear** shines Develop's talent spotlight on the new wave of development superstars…

GEORG BACKER

Audio Producer, Lionhead

"We love you, Georg!" cooed the girls when Mr. Backer, 29, went up to collect the Audio gong at the 2009 Develop Awards. Georg has been at Lionhead for over nine years in a variety of roles – including programmer on *Black and White*, cutscene designer for *Fable*, drama work on *Fable II* and is currently focused on audio for *Fable III* and *Milo and Kate*.

ERIC HOPE

User Experience Evangelist, Apple

27-year old Eric performs user interface and product design consultations for companies who are creating their software for Apple platforms. Whether helping new developers polish and ship their first products or assisting experienced game studios in moving their blockbuster franchises to the iPhone, he's worked with over 600 game teams – no small feat.

GILLIAN CONNOLE

Music Licensing Manager, SCE London

Gillian, 29, runs the music licensing department at SCE London Studio, which means that she wrangles those labels to get all that content for *SingStar* plus everything else published by SCEE. She previously honed her music industry knowledge at V2, and also does a stellar job representing *SingStar* at the South by South West festival in the US.

JOACHIM ANTE

Chief Technology Officer, Unity

You might have noticed Joachim's face on the cover of this issue, but what's amazing is that he's only 27. After failing his programming course in high school – some say on purpose – he laid much of the foundations of Unity's core while still a teenager. He's now responsible for overseeing the 35-strong technical team and steering the direction of Unity platform itself.

ANDREW SCHEIDECKER

Senior Graphics Architect, Epic Games

Nominated by none other than Tim Sweeney himself, 27 year-old Andrew is described by the father of Unreal Engine 3 as a 'genius-level programmer'. After working as the primary developer on UE3's rendering system, he's now busy on new geometry techniques for next-gen hardware. In his spare time, he writes – get this – genetic analysis software. Amazing.

ERIC BOLTJES

Lead Multiplayer Designer, Guerilla

Despite only being 26, Eric has been creating multiplayer experiences for half of his life, initially as part of the modding community. His efforts caught the attention of Guerilla development director Arjan Brussee, who hired Eric as a junior level designer on *Killzone*. He's quickly risen through the ranks since then, and his personal motto is 'playtest, playtest, playtest'.

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NAT MARCO

Art and design, Honeyslug

Nat started doing work experience at Morpheme inbetween classes at University, at first just testing and then progressively moving into game balancing, level design, and even creating design documents. Now Nat, 25, works at Honeyslug, creating levels and managing a small team of artists – although in true indie style she does a little bit of everything, and is described as a 'huge asset' to the team.

JEFF LYNDON

VP of Greater China, Interzone

If there was an award for most-nominated person, it would go to Jeff Lyndon: a whopping six times. By the age of 22 he'd founded his first company, starting RMT farms in China. Don't worry, he realised the error of his ways, and has since founded three companies including iPhone dev Humble Gaming, altogether working on over 18 titles. He's also a prominent media go-to guy in the local market.

MARTIN FIELD

Artist, nDreams

Martin joined the games industry just two years ago after working in TV, and found himself straight in the deep end creating top-quality PS3 environments single-handedly alongside some of the most experienced artists in the industry. We're told that the 28 year-old has "matured into a superb and versatile artist, with a superb work ethic, and he's a real team player with a wicked sense of humour."

DAVE POLLARD

Director and Lead Programmer, Eiconic

29 year-old Dave first came to the attention of his peers when he joined LT Studios after completing a post grad degree at Oxford. He's described by his current co-workers as having a phenomenal talent for programming, in particular "his speed at generating code and establishing gameplay mechanics." He co-founded Eiconic in 2006 and is now the core gameplay architect and central in establishing design.

DAN MARSHALL

Founder and all-round hero, Zombie Cow Studios

The lovely Dan Marshall, 29, first started out his working life toiling away in the TV industry, but atoned for his many sins by creating indie games in his spare time. Dan founded Zombie Cow in 2008 and went full-time in 2009 after the success of *Time Gentlemen, Please!*. He's now working out how to peddle filth to kids together with Channel 4 in a wonderful sex-education game.

PETER LOVELL

Senior Recruitment Coordinator, Jagex

When you're a company as massive as Jagex, recruitment is a big deal. Although 26 years-young Lovell has only been there for two years, he's already made himself indispensible to the company, recruiting roles across the board from executive producers to IT managers. He's also contributed to other efforts such as creating the company prospectus, improving processes and raising the studio's profile.

RICHARD HAMER

Junior Designer, SingStar SCE London Studio

Hamer joined the *SingStar* team mid-2007 as a tester, but quickly found his responsibilities widening to the point where he's now the primary designer working on My SingStar Online. Spies tell us that the 24 year-old is a thorough chap entirely adept at creating deep yet simple designs, and that his 'attitude and demeanour make him one of the stars of the *SingStar* team.' Awwww.

STEPHEN GAFFNEY

Studio Director, Splash Damage

At only 29, Steve's certainly had an eventful few years. He joined Splash Damage from Bizarre as IT manager before becoming business development manager, helping set up the studio's partnership with Bethesda. He became development manager once pre-production on *BRINK* started, and is now studio director, overseeing the day-to-day operations of Splash Damage and the development of its titles.

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HANS ANDERSSON

Chief Development Officer, Hansoft

Hans was part of the original team at fellow Swedish super-team Starbreeze, but co-founded Hansoft in 2002 with Erik Olofsson and Patric Palm (both of whom are just over 30, bless 'em). They committed to Hansoft development in 2005, and Hans – now just scraping into the list at 29 years old – has served as chief development officer of the much-loved project management software ever since.

CAT BURTON

Front-End Engineer, Mind Candy

Cat, 24, graduated in 2007 but didn't jump straight into the games industry – in fact, she entered the world of finance at Lehman Brothers, working on shell scripting plus stuff in Java, Perl and SQL. She joined Mind Candy in October 2008 and now spends most of her time working in Flash. When she's not coding up a storm in the office, you'll probably find her deep in *World of Warcraft*.

JIM GRIFFITHS

Writer and Producer, Mediatonic

Previously a journalist before he joined Mediatonic, 29 year-old Jim started off by writing the story and characters for the wildly successful *Alan Probe: Amateur Surgeon* game on Adultswim.com, and has since been producer on over 40 different projects of 'wildly-varying sizes'. He's also created the story and characters for Mediatonic's own upcoming IP, including *Monsters (Probably) Stole My Princess!* on PSP.

JOEL BEARDSHAW

Junior Level Designer, Codemasters Birmingham

A graduate of a games design course – see, they can work! – 23 year-old Joel joined Swordfish in 2007, and has already been actively involved in *50 Cent: Blood on the Sand* and *Operation Flashpoint: Dragon Rising*. We're told that he'll take on any job that needs doing – probably handy for when the toilet's blocked – and has a "positive attitude that leaves an impression on everyone who works with him."

PETER ROE

Digital Artist, RealtimeUK

Roe, 29, joined Realtime UK at the start of 2009 in order to 'fulfull his dream' of working on pre-rendered marketing trailers in the games industry. He's since taken a detailed role in the production of some of its biggest projects. What's most lauded is not his positive attitude and sense of humour, but his cooking skills – largely because he's always bringing in cakes. Sounds like the ideal co-worker to us.

ADAM CAPONE

Freelance artist

A Teesside University graduate in 2005, Capone managed to secure a short-term contract with Streamline Studios and relocated to Amsterdam. He impressed them so much, however, that he remained there for years, working on titles like *Saints Row*, *Unreal Tournament 3* and *Gears of War*. His nominee 'seriously believes that he will grow to be a Western equivalent of Fumito Ueda' – high praise indeed.

RAY KHALASTCHI

Associate Producer, XDev Studio, SCEE

Ray, 24, learnt the industry ropes during a 13-month internship at Disney Interactive Studios' growing London office. After graduating with First Class honours from Brunel University he quickly found himself moving to Liverpool to join SCEE. He is currently working on the super-anticipated PS3 exclusive *Heavy Rain*, as well as a launch title for the PlayStation 3 Motion Controller.

SIMON BERRY

Assistant Producer, Exient

Joining Exient as a tester straight from University 18 months ago, Berry initially worked on *Need for Speed: Undercover* and impressed management so much that he was made assistant producer on the PS2 and Wii ports of *DJ Hero*. Now at the age of 24, his 'enthusiasm and drive to succeed' has seen him managing his first solo project, supervising eight programmers on a new IP. A speedy ascent indeed.

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JULIO PEREZ

Co-founder and CTO, Gbanga.com

One of the founders of new Zurich-based 'ubiquitous game studio' Gbanga, 29 year-old Perez – who has a whopping two Masters degrees – created an MMO game server with geographical info services, a location-sensitive client app for Symbian and J2ME devices, and a RESTless Puppetmaster API in just two years.

ANDREW SMITH

Lead Designer, Proper Games

Picking one of the three leads from Proper was impossible, so we flipped a coin; each is 27 and kicking up a storm at Proper. Smith joined soon after the company was set up, and was lead designer on the BAFTA award-winning *Flock*. He's also heavily involved in events like Dare to be Digital and Next Level, so he's got a caring side too.

BEN CURTIS

Vehicle Artist, Evolution Studios

We weren't given many career details about Ben, but we were given a pretty convincing personal testimony – describing the 26 year-old as 'one of those people you can depend on, someone who constantly goes above and beyond but never asks for anything in return.' Well, with a argument like that, we couldn't say no…

MATTHEW BROWN

Environment Artist, bigBIG Studios

Again one of the many submissions from bigBIG, all equally qualified, we were swayed when we found out that 25 year-old Matthew was originally one of the youngest members of bigBIG. He began his career there working on *Pursuit Force: Extreme Justice* and also created two of the environments in *MotorStorm: Arctic Edge*.

CLAIRE BATEMAN

Game Designer, Six to Start

Claire, 27, has had quite the career journey: she's worked in theatre with Punchdrunk as a scenographer and Mask Mistress; created fibre optic light installations for Sharon Marsden, and designed origami plates for Warm Rain. She's been at Six to Start for two years now, and also moonlights under the name Minkette. We are confused.

MAGNUS ALM

CEO, Muskedunder Interactive

Alm has, in his 29 years, founded Swedish developer Muskedunder and steered its growth from three people to seven. During those three years the studio has released over 50 casual and Flash games for clients like Disney, Pepsi and McDonalds. He's also become a board member of the Association of Swedish Game Developers.

TANYA JESSEN

Producer, Epic Games

Now this is the kind of story we like. Originally a recruiter at Volt, she was herself recruited as a tester by Microsoft. Her successes led to her becoming Microsoft's in-house test lead on *Gears of War*, and was then tapped up by Epic themselves as an associate producer on *Gears of War 2*. She's now working on a secret title. Wonder what it could be…?

ADAM GREEN

Managing Director, Assyria Game Studios

A hobbyist developer in his teens, Adam brought together a team at University and made them an official company last year. Since then they've developed four iPhone games plus a proof-of-concept for PSN/XBLA. You'll often find him at conferences networking his socks off or at events dedicated to pitching and business best practice.

HONOURABLE MENTIONS

No less worthy of mention, but victims of our ruthless one-person-per-company policy, were the following bright young things:

Matthias Sala, co-founder and CEO, Gbanga; **Simon Berry**, associate producer, Exient; **Chris Bradwell**, senior artist, Proper Games; **Daniel Parker**, senior coder, Proper Games; **Ben Robins**, digital artist, RealtimeUK; **Ben Calderwood**, environment artist, bigBIG; **Kinwai Lee**, animator, bigBIG Studios; **Laurel Austin**, senior concept artist, Splash Damage; **Jared Hefty**, lead tools programmer, Splash Damage; **Steve Hessel**, community relations manager, Splash Damage; **David Johnston**, senior level designer; the other 35 people under 30 at Splash Damage. We love you all.

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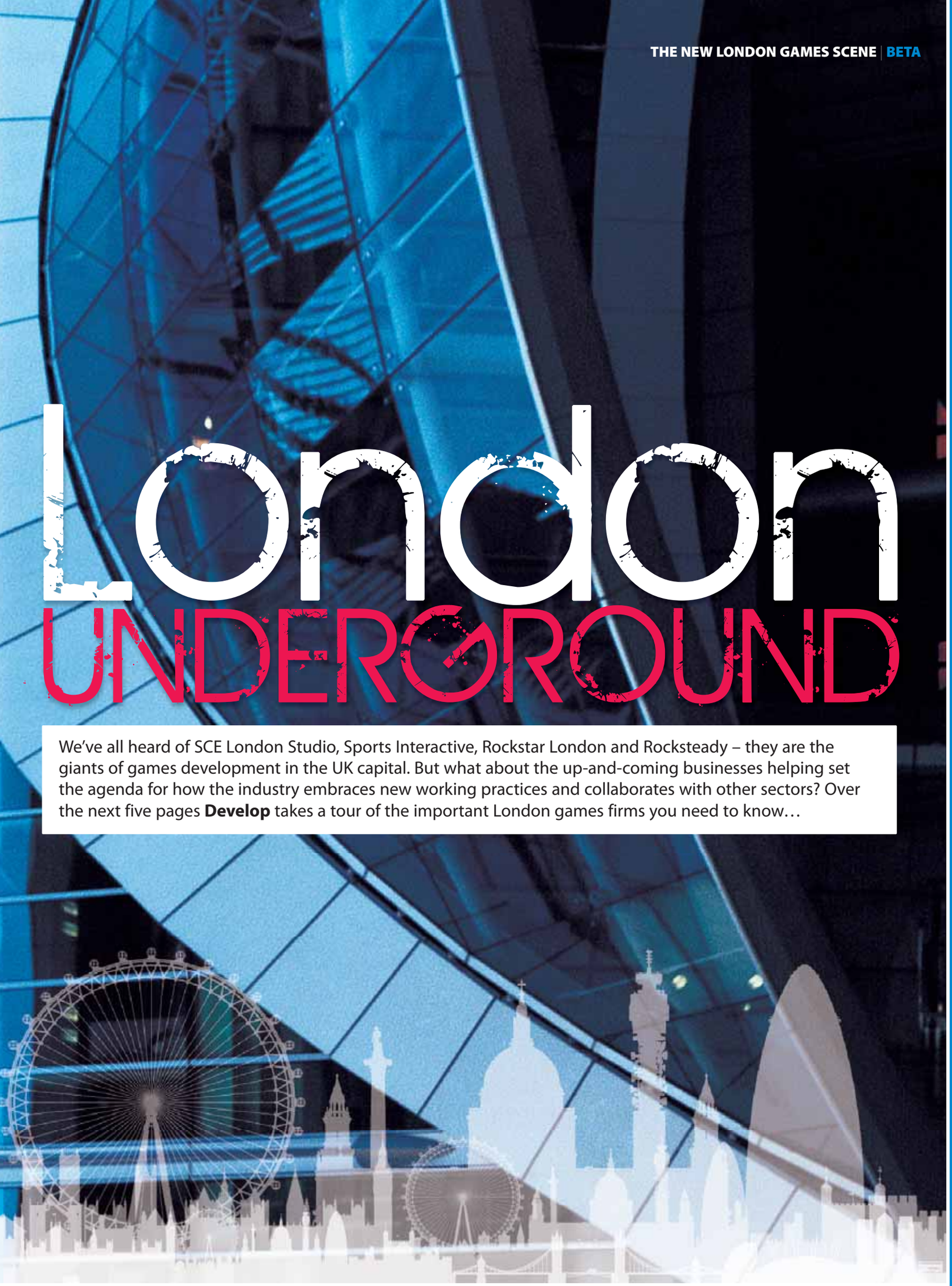
London UNDERGROUND

We've all heard of SCE London Studio, Sports Interactive, Rockstar London and Rocksteady – they are the giants of games development in the UK capital. But what about the up-and-coming businesses helping set the agenda for how the industry embraces new working practices and collaborates with other sectors? Over the next five pages **Develop** takes a tour of the important London games firms you need to know…



HONEYSLUG

IF YOU'VE GOT A PSP, and you've checked out the new Minis services, chances are you'll have played a Honeyslug game. Its launch title for the service, the claymation-styled puzzler *Kahoots*, is one of the consistently highest rated games on the platform.

Honeyslug was founded in 2008 after its three staff – Ricky Haggett, programmer; Nat Marco, artist and star of this month's 30 Under 30 (*see page 27*); and Mark Inman, producer/PR – worked together at Eidos satellite Morpheme, first on mobile phone games before being refocused on download casual and flash games. After Eidos shut the studio in 2008, the three of them decided to stick together and set up Honeyslug.

Given the small size of the company, they all have an almost equal hand in pretty much everything that's done by the company.

"The three of us share business development and high-level decisions," says Inman, "and we each take differing shares of game design and art direction on a per-game basis."

While the lo-fi nature of the studio might seem restricting, the trio actually believe that it helps them: "We've found that it's actually no harder to charm someone with a game, make them laugh even, on a shoestring budget. In fact, it's possibly easier, because the limitations seem to make us more creative. This was definitely the case with *Kahoots*, where we had an art budget of £35, and bought all kinds of stuff from Kentish Town high street to scan or photograph, made characters from plasticine and wool, and drew the interface with felt tips."

The team also makes heavy use of freelancers in order to keep output high. "We work with different artists on different games – starting Honeyslug has given us the chance to work with some very talented friends of ours on a freelance basis, as well as finding new artists on the internet. Ricky's brother Rob does all our sound and music, as well as patiently recording us pretending to be zombies, or dinosaurs, or whatever it happens to be that week."

> ***Kahoots had an art budget of just £35. We bought all kinds of stuff from Kentish Town High Street to photograph drew the interface with felt tip pens.***
>
> Mark Inman, Honeyslug

This use of freelance resources makes Honeyslug's London location all the more useful, given the wealth of creative types within the M25's boundaries, says Inman: "Much of the UK games industry is within an hour of the capital these days, which makes it easy for people to visit us for a chat.

"Kentish Town is a pretty easy place to get to, and this accessibility has proved useful in establishing some of our key relationships - Sony are just down the road for example, and one of our publishers is based in Kent."

And while 2009 might have been a great year for Honeyslug, 2010 is looking even better: the studio's first DS game is nearing release, as well as some new versions of Kahoots.

Adds Inman: "We're also aiming to expand our team – modestly – with the intention of polishing up a couple of our more 'out there' prototypes."

STATS

NUMBER OF STAFF: 3 core members + various freelance artists and musicians
FOUNDED: 2008
LOCATION: Kentish Town, North London
PREVIOUS PROJECTS: *Kahoots* (PSP & Flash), *Ric Rococo: International Art Thief* (Flash & iPhone), *My Pet Dinosaur* (PC), *Flora's Fruit Farm* (PC), *Glean of Glob* (Flash), *Balloon Headed Boy* (Flash & iPhone) and *Keep Ahead* (Flash)
CURRENTLY WORKING ON: An adventure game on DS and PC, more versions of *Kahoots*, a zombie game set in Hollywood.
www.honeyslug.com

EICONIC GAMES

IF YOU'RE THINKING 'I'm retty sure I sure Eiconic in a different regional focus earlier this year' then give yourself a pat on the back (and a slight chastisement for remembering such useless facts) – indeed, we've seen these guys already in 2009 as part of the Midlands focus.

If you're wondering how a studio can be in two places at once, prepare to have your mind blown – Eiconic is in about five places at once, and simultaneously nowhere at all. No, it's not the result of a mishap at the Large Hadron Collider, but rather one of the growing breed of 'remote' studios with no fixed abode.

Why? Well, for lots of reasons. "The most beneficial reason to be remote from a development point of view is the extra time it gives you," explains managing director Graeme Monk.

"Prior to setting up Eiconic we all had commutes of around an hour each way, so instantly gaining an extra couple of hours a day means we can be extremely productive for a small team."

Another great thing is that they can pick and choose staff and freelancers from anywhere across the UK – including London, of course – without having to make them relocate. "This has been extremely useful on our new title *Polar Panic*, and has allowed us to work with talented people we would not have been able to work with otherwise. Plus, from a financial point of view it's also very useful not to have the overhead of an office."

This year has been a busy one for the guys, releasing not only *Squeeballs* on the Wii but also prepping *Polar Panic* for a December release on Xbox Live Arcade and PSN, with the PC version following next year.

> ***Setting up as a 'remote' studio has allowed us to work with people we would not have worked with otherwise – including those in London.***
>
> Graeme Monk, Eiconic Games

"*Polar Panic* has been the highlight of the year for us. It's really refreshing developing our own ideas, our way, into a finished product. It's also been a learning experience as it's our first title for electronic distribution. Download sales figures are difficult to obtain, so it's guesswork what our return might be. There's a huge market out there, but it would be very helpful if download sales were as transparent as retail, especially as it seems to be hit and miss on what sells."

Looking at the game, though, it definitely strikes as more of a hit than a miss.

"Our aim with Polar Panic was to develop a game in the tradition of classic arcade games, with the looks of a modern next-gen title and enough depth to keep the most hardened gamer hooked," explains Monk. "The whole game is easy to pickup and fun to play, but in small enough chunks so you don't have to spend hours to complete a level. We think it's a good family game, and we've received our first batch of previews of *Polar Panic*, and it's being received well both by the press and the public."

STATS

NUMBER OF STAFF: Five, plus contractors as required
FOUNDED: 2006
LOCATION: Various, mainly South East
PREVIOUS PROJECTS: *Polar Panic*, *Squeeballs*
CURRENTLY WORKING ON: *Squaddies* (working title)

www.eiconic.com

WATERFRONT

ALTHOUGH BASED IN COVENT Garden, Waterfront Entertainment 's roots as a games studio actually stretch all the way out of London – and right up to Dundee, Scotland.

The firm was originally set up in 2004 as a sister company to Denki, with a remit was to help sell the parent firm's interactive TV products into overseas markets.

But as Denki's focus changed, however, the management team struck out on their own – and has been quietly producing a line of games since February.

> ***"The amount of talent in and around London is truly world-class, and allows us to take our time and pick the very best specialists in their fields."***
>
> Pete Morrish, Waterfront

In the last few months that has ranged from word-based puzzle games to branded action titles for kids.

And whilst the specialised interactive TV market – which means games for the 25 million subscribers of Sky in the UK and DirecTV in the States – remains Waterfront's speciality, the team has also created iPhone and Flash titles for clients.

Studio manager Pete Morrish says that a mix of "talent, opportunity, traffic" explains why being based in the London has helped the team.

"The amount of talent in and around London is truly world-class, and allows us to take our time and pick the very best specialists in their respective fields to help Waterfront achieve its potential," he says.

"Opportunity is afforded by the number of other companies that have chosen to have some presence in London: client meetings are easy and regular, and chance encounters happen more often than in Jane Austen novels. The traffic's a pain in the neck, mind."

Waterfront has a deceptively simple structure, which explains how it has managed to be so prolific so quickly – there is a CEO, studio manager, two artists and two coders.

Explains Moorish: "One coder and one artist typically work together on a project, with the studio manager taking on a product architect role and taking care of all design, scheduling, paperwork and QA. We usually have three or four projects on the boil at once. Our development processes are highly organised, iterative and transparent: we think, we plan, and we execute efficiently, every time.

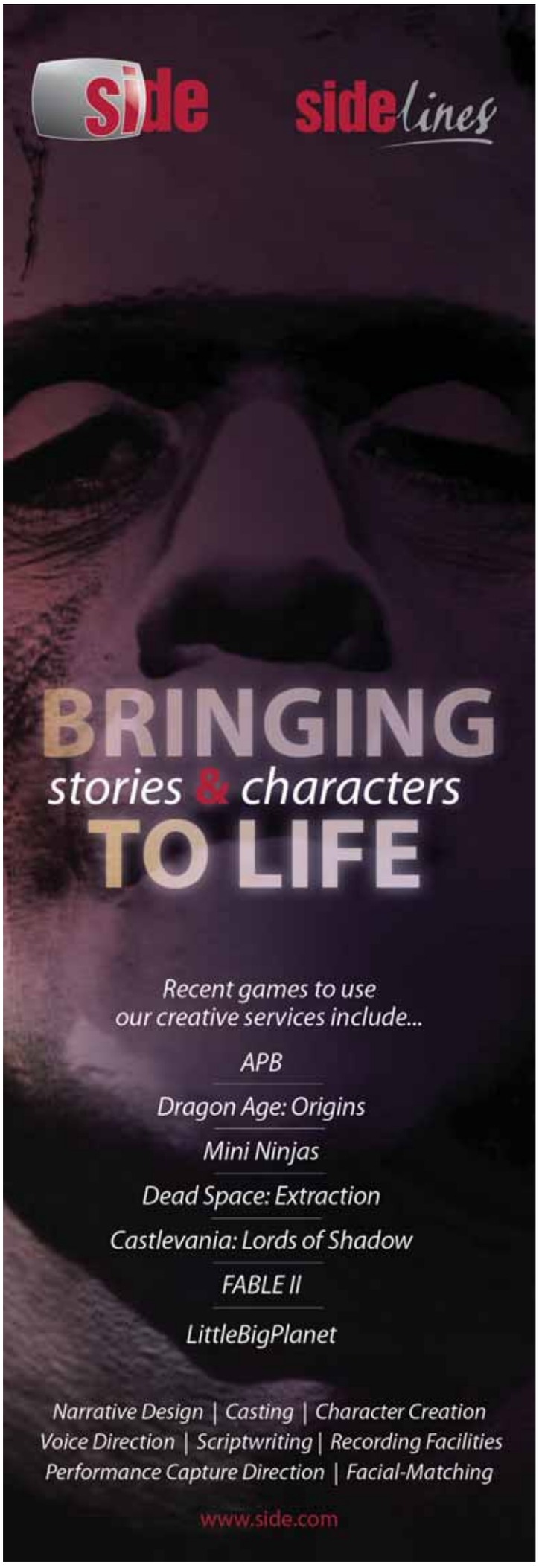
"We're laser-focused on the overall user experience, and put the user's wants, needs and desires at the centre of everything we do.

"Although we're world-class game developers, we don't make games: we make *products* that use the idea of 'play' as an important part of the overall experience. It's a key differentiator, and one that's vitally important in today's ever-changing marketplace."

STATS

NUMBER OF STAFF: 6
FOUNDED: 2004
LOCATION: Covent Garden
PREVIOUS PROJECTS: Over 10 in the last six months, including interactive TV games based on *Ben 10*, *Play Your Cards Right*, *Wall-E* and *Scooby-Doo*, plus an iPhone game based on *iCarly*.
CURRENTLY WORKING ON: It's a secret

www.waterfrontitv.com



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SLIDE

WHILE MOST KNOW THAT *Assassin's Creed II*, one of the year's biggest games, was built by a team in Canada (with help from sister studios in France and Shanghai) – did you know that an art outsourcing team in London also mucked in with the game's development?

Aldgate-based character art outsourcing firm Slide has been open for two years and in that time worked on the likes of Ubisoft's Christmas opus. Founders Etienne Jabbour and Robin Deitch first met as colleagues at Kuju's London studio Headstrong while working on first-party Nintendo titles – but they didn't reunite to form the business until 2007. The two are now the firm's only full-time directors, while employing a handful of freelance artists.

Being based in central London hasn't just given the pair ready access to its creative community, but has helped them shape the still relatively young art outsourcing field for games. Slide is structured more like a TV creature/character shop – but is staffed by games experts.

"The role of UK art outsourcing was fairly unclear when we set up, and it took a while to identify exactly who our market would be," Jabbour tells us.

"Being located in London was key at this stage, as we had access to both clients and talent from the capital's long-established games, entertainment, advertising and post production industries.

"Art outsourcing was of course already big business (albeit a business tainted by many bad experiences across the games industry). We knew from the start that Slide would not be competing against the many large and established firms. We had decided instead to focus on providing more bespoke principal assets, illustration and animation where our specific character-centric 3D production skills would make us a cost-effective solution.

"Key to this endeavour was the belief that we had great artistic and technical talents, as well as the necessary communication skills and lead/director experience to get to the core of a client's brief with the minimum amount of revision and reworking possible."

> ***"Being located in London gave us access to talent from the capital's long-established games, entertainment, advertising and post production sectors."***
>
> Etienne Jabbour, Slide

Winning the contract with Ubisoft has helped thrust the studio forward to. Having worked on a series of digital character sculpts for *Assassin's Creed II*, Jabbour says that Slide is now "the only dedicated character development studio with triple-A credentials" not just in London, but the UK. But the London connection has boosted the firm and enabled such quick success – even though the city is expensive to live and work in.

Says Jabbour: "We also benefit from the pull of London's existing VFX/production scene on talent from around the world. There's an increasing overlap in the skills needed to deliver high quality characters for games and production, so our location helps our ability to source quality digital character/creature sculptors.

"Opportunities in London for drinking and networking definitely shouldn't be underestimated. There's a huge variety of formal and informal ways to meet, discuss and most importantly gossip, and there's no better way of measuring the pulse of our client industries.

"Let's also not forget that London itself is bursting with art and architecture. It's an inspirational environment for a creative company."

STATS

NUMBER OF STAFF: Two full-time directors, three to five freelance artists
FOUNDED: 2007
LOCATION: Aldgate, London
PREVIOUS PROJECTS: *Assassin's Creed II* and numerous others
CURRENTLY WORKING ON: Character art for unannounced titles

www.slidelondon.com

ZOË MODE LONDON

ONE OF THE NEWER upstarts in London games development, Zoë Mode London is the year-old spin-off studio from its well-known Brighton sister team.

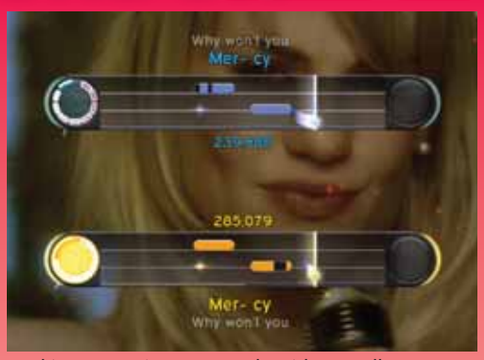
In 12 months the team has gone from under ten to 25 staff working on a variety of console titles, both those made in-house and at its studios on the UK coast and in San Francisco. Last month's *Disney: Sing It Pop Hits* was its latest title.

The studio was set up specifically to widen Kuju's talent base, explains studio head Nicolas Rodriguez: "Being in London has helped us recruit and attract people from outside the industry. We've recruited from the web world, the film and TV editing industry – and even from the City, although that's not a surprise given the events of the last year.

"I think the cross-pollination of ideas that come from being in such a vibrant city is important: we talk to online and advertising agencies, graphic design studios and recording facilities about the way they work and see if we can learn anything from them. It's also great to see the London games scene thriving again."

Indeed: after a tough times for games development in London a few years ago, Zoë Mode is just one of a batch of new and established firms helping reshape what is to be expected of games development alongside stalwarts like Sony's London Studio and Sports Interactive.

Rodriguez says his team are looking to maintain that cutting edge with a nimble team structure and eagle-eyed R&D unit: "We've got a couple of teams working on projects currently with a smaller research group we are ramping up to look at social networks and what the console market can learn from their success."



And being in London means both diversity, and a place in the middle of a cultural whirlwind.

"We are a close knit group striving for a culture of excellence in everything we do," says Rodriguez.

"It's a diverse team with some 18 nationalities represented, which is going to make for an interesting World Cup.

He adds: "Thriving in these uncertain economic conditions is what I'm most proud of. We've managed to keep working through tough times and I put that down to the character of the team and the commitment to working in an agile way. We just want to continue growing and developing our culture and expressing that through the work we do."

> ***"Our London location is important: we talk to online and ad agencies, graphic design studios and recording facilities about the way they work."***
>
> Nicolas Rodriguez, Zoe Mode

STATS

NUMBER OF STAFF: 28

FOUNDED: 2008

LOCATION: Borough High Street

PREVIOUS PROJECTS: *Disney: Sing It Pop Hits*

CURRENTLY WORKING ON: Several unannounced projects.

www.zoemode.com

HIGH SCORE

WHILE HIGH SCORE'S MAIN studio is based in the leafy Oxfordshire town of Banbury, the audio specialist also has a studio within the capital.

"It doesn't really help for music or sound design, but for voiceover recording, most of the talent is here in London," explains founder Hugh Edwards.

"It becomes unfeasible to bus down 40 actors to a studio in the country, and so we record in the capital. But you can still achieve great results in London without having to break the bank. Our business model is designed around just that. There is a very good tube system in London; you don't need to be in Soho – doing that just makes things untenably expensive."

Cost is something that High Score takes very seriously, doing its best to drive costs down without compromising on quality. And costs, of course, are a key concern in London.

"Games nowadays have very large budgets. Although the comparative audio budget is a small part of the whole budget, bad audio can literally break a game and ruin the thousands of man-hours of development that have gone into it. Gaining an audio contract to us is not just about getting the work – it's about respecting what the game is about and what its best interests are. It's about enhancing the good work that's been done already and adding our creative touch in the right and appropriate way.

We always deliver on-time and in-budget. We respect our clients and the audience. We deliver to the highest quality standard. I know that sounds quite obvious – to deliver high quality audio – but it

reminds me of one developer who shall remain nameless who, having quoted for a music job, replied to us saying that actually they knew someone who would do it for a hundred quid and a crate of beer. We are very competitive, but you do get what you pay for."

> ***"You can still achieve great results for audio in London without having to break the bank. Our business model is designed around just that."***
>
> Hugh Edwards, High Score

And as for 2010, it's a case of keeping on trucking, keeping the existing customer base happy and seeking out new ones. "We haven't lost any clients so far in our five-year-span, and we aim to keep it that way. We are expanding our staff, our studios and our toolsets. We've also got a couple of very interesting plans for the future which will be very beneficial to people when they come out. But really, our main aim is to forge new relationships with people we haven't yet worked with, and to maintain the relationships with clients we already have. I couldn't ask for more than that."

STATS

NUMBER OF STAFF: 3 perm – up to 8 contract
FOUNDED: 2004
LOCATION: Banbury, Oxfordshire and London
PREVIOUS PROJECTS: *IL2 Sturmovik Birds of Prey*, *Beijing 2008 Olympics*, *Fallout 3*
CURRENTLY WORKING ON: *Iron Man 2* for Sega, *Nat Geographic Quiz: Wild Life* for Gusto Games/National Geographic

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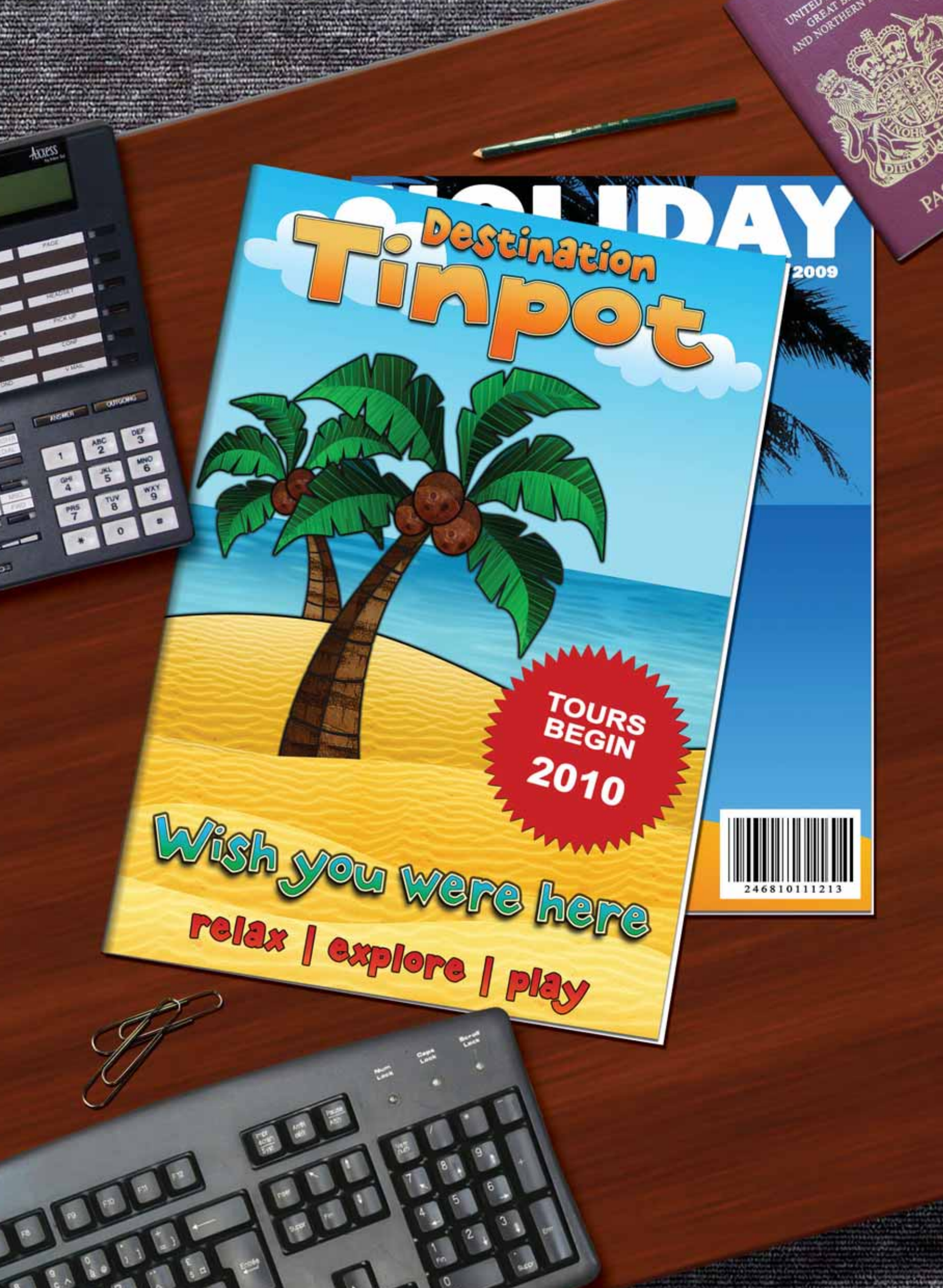
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SPOV

THE CALL OF DUTY series is famed for its globetrotting narrative. One minute you're a Navy SEAL operative, the next a crack SAS agent. But did you know mega blockbuster *Modern Warfare 2*'s production was similarly country hopping, with a London-based animation firm responsible for a chunk of in-game content?

The game's in-game cinematics, which thrust players from corners of the globe and across international perspectives, were in fact made by a team in London called SPOV. The team has in fact worked on a number of Activision titles following work on the first *Modern Warfare* – not bad for a company founded by freelance artist Allen Leitch just a short while ago.

Since signing up with Activision and doing TV work for Discovery, Leitch has grown a stable of talented artists. But he admits that much of SPOV's success spring boarded from Infinity Ward's seal of approval: "We owe all of our recent success to one man. His name is Michael Boon, technical art director at Infinity Ward. Michael saw some work of ours on a TV series called *FutureWeapons* on Discovery and sought us out via the show's production company. Michael asked if I'd be interested in getting involved with their game, and obviously my response was positive to say the least. After a sneak peek at the game in IW's LA offices I was blown away. I still had no concept of how massive *Modern Warfare* was about to become, however – it really wasn't until the game hit the shelves that I realised I'd just been involved in something special.

> ***We plan for SPOV to be counted amongst the most creative and professional studios for our design, production, quality and originality of our concepts.***
>
> Allen Leitch, SPOV

"That one email has completely transformed our business, and now we've been fortunate enough to be re-hired by Infinity Ward to do it all again."

Going forward, Leitch plans to leverage his firm's unique position as part of the London graphics scene to keep growing SPOV. The firm is a classic example of the many companies in London (and on these pages) that support and work with the games industry and help it crossover with others.

Leitch says the team's base in the heart of Shoreditch helps keep them creatively juiced: "We plan to keep doing the jobs we love, and for SPOV to be counted amongst the most creative and professional studios around, not just for our design and production, but also for the quality and originality of our concepts," he says. "We're continually expanding our capabilities and are always on the lookout for new partners to develop our creative ambitions."

STATS

NUMBER OF STAFF: Five
FOUNDED: 2007
LOCATION: Shoreditch, East London
PREVIOUS PROJECTS: *Call of Duty: Modern Warfare*, *Quake Wars: Enemy Territory*, *Call of Duty: World at War*, *Transformers: Revenge of the Fallen*, *Call of Duty: Modern Warfare 2*
CURRENTLY WORKING ON:
Unannounced projects

www.spov.tv

SIDE

SIDE WAS ORIGINALLY SET up in 1997 purely as a sound studio to service the commercial and broadcast sectors – but like many of the creative services firms in and around London's Soho, the management team quickly realised that there was a great opportunity to tap into the rapidly growing games industry.

Over the years the firm has expertly used its experience and contacts gained from working on radio, TV and film projects to provide a full dialogue production service to the games industry.

By 2004 the production arm of the company was fully established and working with leading agents and directors to provide character performances for developers and publishers. And then two years ago the firm set up Sidelines, an agency specialising in providing professional writers for interactive entertainment projects.

Throughout its life the firm has had a big impact on the production for games including *Fable II* and *Star Wars: The Force Unleashed*.

"Being in London is incredibly important for Side as the city has one of the most concentrated pools of high quality acting, directing and writing talent in the world," explains creative director Andy Emery.

"In order to tap into this and 'champion' performances in videogames, we're continually meeting with agents and directors, attending actor showcases, theatre productions and preview screenings. Being based in central London allows us the flexibility to meet the talent and make introductions to clients, often at very short notice. The transport links, especially the proximity to key airports, are an added bonus for clients attending sessions from Europe, North America and Japan."

Side's creative writing agency has developed will in the past year too, adds Emery: "It's been a really exciting year for Sidelines and we've placed writers on a number of high profile titles. We now represent a diverse set of writers."

And as the games industry's familiarity with services and outsourcing increases, there's an increasing sophistication in the way companies like Side are being treated by developers, says Emery – his team is being involved at the start of the game's production much earlier these days: "With greater focus on character performances, we're being brought into projects at a much earlier stage. We'll be recording projects at the beginning of next year that we began pre-production work on back in April 2009 – this would have been unheard of only a few years ago.

> ***London is incredibly important for us as the city has one of the most concentrated pools of high quality acting, directing and writing talent in the world.***
>
> Andy Emery, Side

"Developers can see the benefit of having our team involved much earlier in the process for directing staging sessions, script read-throughs, casting and rehearsals. This can open up a whole range of opportunities to improve the final quality once full production begins."

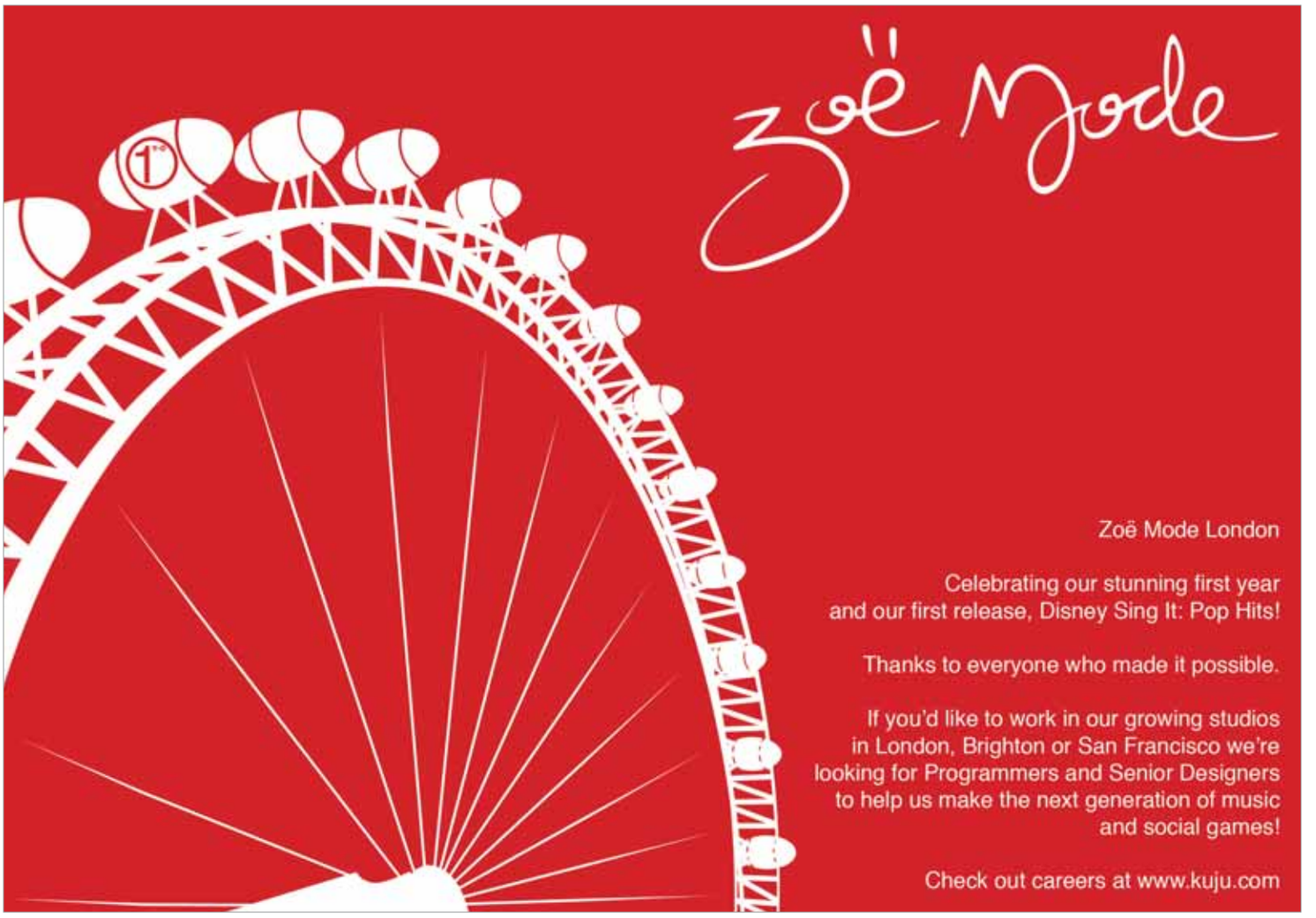
Next year, Emery says the firm will grow its specialist audio localistaion service. "An increasing number of our publisher clients no longer accept inferior dialogue production for their localised games and expect the same high production values as the English version.

"Meanwhile we will continue to engage with creative talent developing even more exciting and believable character performances. It's going to be another exciting and busy year."

STATS

NUMBER OF STAFF: Ten full time staff
FOUNDED: 1997
LOCATION: London, W1
PREVIOUS PROJECTS: *Dead Space Extraction*, *Fable II*, *LittleBigPlanet*, *Star Wars: The Force Unleashed*
CURRENTLY WORKING ON: *APB* (Realtime Worlds), *Star Wars: The Old Republic* (LucasArts/Bioware) and various others

www.side.com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Zoë Mode London
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Pay No Attention to That Man Behind the Curtain

It's easy to take for granted the video game coding and effects that bring near cinema-quality visuals to the screen—the flash of sunlight on a polished sword blade, the shifting formations of clouds moving across the sky as shadows trail them on the ground, the dark glint of malice in a character's eyes as a battle begins, the bird's eye view of an intricate forest landscape passing swiftly below. Behind these familiar and convincing graphics a host of visual computing technologies combine to build the illusions of fantastic worlds—physics to model the formation of towering cumulonimbus, game engines to control the behaviors of entire civilizations teeming with characters and mythical beasts, lighting systems to portray the subtleties of sun and fog and shadow, artificial intelligence to turn a predator's actions into a deathly drama.

Forgetting the admonition from one of the world's most popular cinema masterpieces from the 30s, we'd like to invite you to take a peek behind the curtain at the innovative, breakthrough middleware technologies being delivered by independent software vendors at the top of their game—so that the games you build can topple expectations.

Read on to learn more about middleware technologies from Epic Games, Umbra, Geomerics, Interactive Data Visualization, Simul Software, Trinigy. Through technology enabling from Intel and hard work from fellow travelers, middleware innovation is producing an exciting new era of visual computing excellence.

EPIC GAMES · umbra SOFTWARE · Geomerics · speedtree · SIMUL Weather · TRINIGY

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Epic Unreal Engine 3

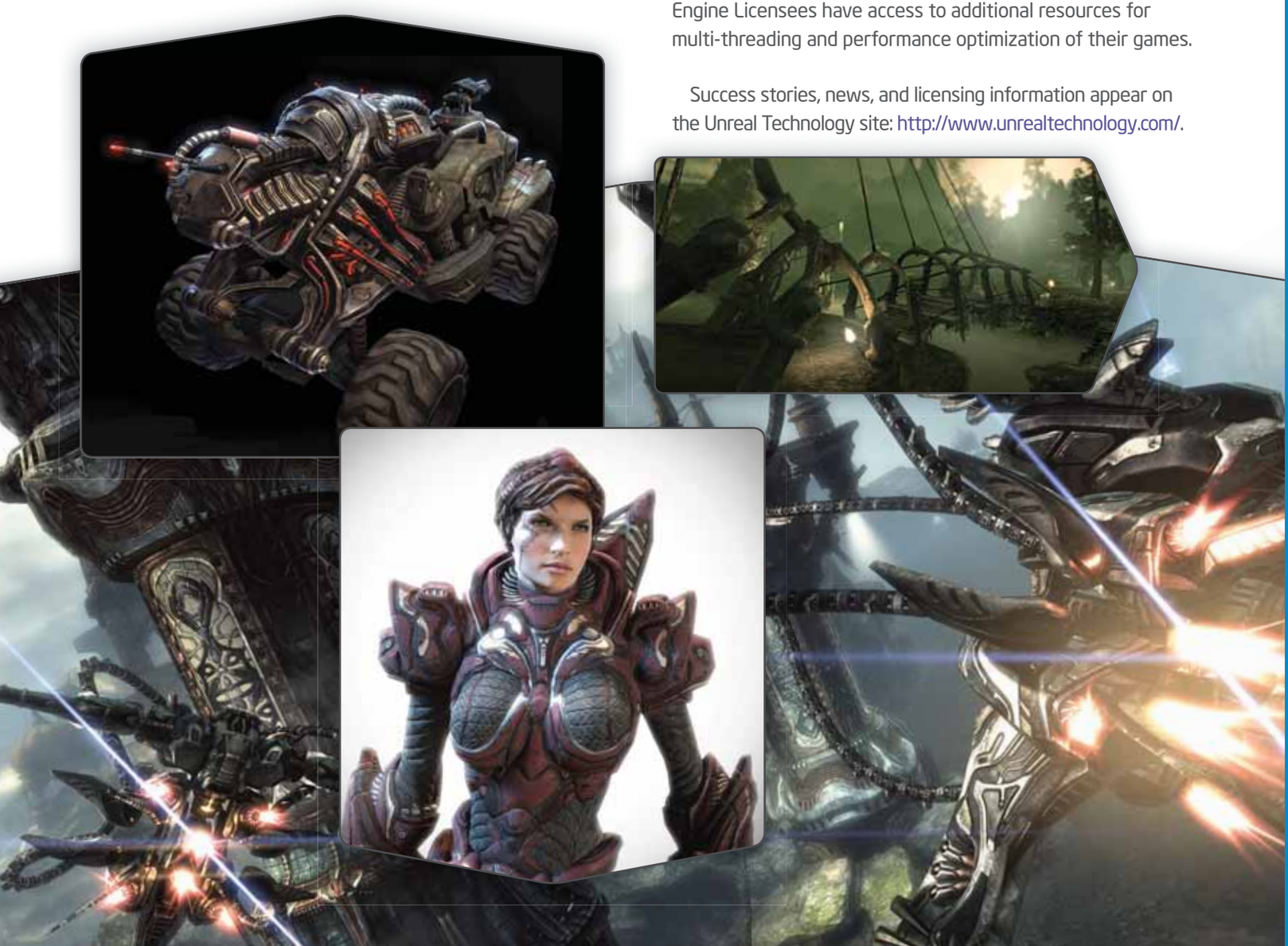
Pop the hood on many of the most electrifying, visually stimulating video games on the market and you're likely to find Unreal* Technology.

The platform and tools offered by Epic provide a comprehensive development environment for bringing 3D projects to life. The Epic Games Unreal* Engine 3 supports advanced technologies from many of the top middleware developers in the industry, and the Integrated Partners Program from Epic helps bring together components for streamlined cross-platform development.

Versatility is the strong suit of Unreal Engine 3. The kinds of games created using the cross-platform capabilities of this game engine include: action (*Batman*: Arkham Asylum*; side-scrolling (*Shadow Complex*: Chair Entertainment*); MMORPG (*APB*: Realtime Worlds*); racing (*Vin Diesel Wheelman*: Ubisoft*); and role-playing games (*Lost Odyssey*: Microsoft Game Studios*). Unreal Engine 3 has also found a home in numerous 3D applications other than games, including disaster preparedness simulations, architectural walk-throughs, and training applications.

Collaboration between Intel and Epic goes back more than 10 years to when the two companies pioneered landmark-setting uses of MMX™ technology. Today, performance improvements through multi-threading are a key focus. "Intel® Threading Building Blocks (Intel® TBB) 2.1 allowed us to easily remove allocation-related multi-threading bottlenecks on 64-bit operating systems," said Michael Capps, president of Epic Games. "We are pleased to share the benefits of Intel's memory allocator with Unreal Engine 3 licensees, as well." Through Intel Software Development Products recently available via the Epic Integrated Partner Program, Unreal Engine Licensees have access to additional resources for multi-threading and performance optimization of their games.

Success stories, news, and licensing information appear on the Unreal Technology site: http://www.unrealtechnology.com/.



umbra SOFTWARE

Umbra Occlusion Booster

Gamers expect Triple-A games to burst off the screen in photorealistic splendor, but the trade-offs between scene complexity and game performance present an ongoing challenge to developers.

The solution is middleware technology to optimize rendering performance. Umbra Occlusion Booster* is an out-of-the-box, multi-threaded rendering optimization library that's proven to work with multiple released Xbox 360, PS3, and PC titles. Umbra Occlusion Booster helps render complex scenes more efficiently by automatically culling invisible objects before they reach the rendering pipeline. As a result, the game developer will be able to create richer and more vibrant games scenes without compromising performance or the development budget. Umbra Occlusion Booster can also handle runtime changes in game scenes effectively. If you need to blow a hole in the side of a building or let players design custom content in your game, Occlusion Booster is there to help.

"Umbra Occlusion Booster uses highly optimized algorithms and data structures to rapidly determine what to render in each frame," said Teppo Soininen, developer relations manager at Umbra Software. "We utilize every resource we can to let developers create larger, more complex game environments, and Intel® hardware and expertise is invaluable to us."

The collaboration with Intel includes the use of Intel® VTune™ Performance Analyzer to eliminate bottlenecks in code, Intel® Graphics Performance Analyzers to enhance code for systems with Intel® Graphics chipsets, and Intel® Thread Profiler to locate and analyze threading performance issues. To keep pace with hardware advances, Umbra uses next-generation Intel® development platforms for their software projects.

For the latest advances in rendering optimization middleware, visit www.umbrasoftware.com.

IMAGE COURTESY MASS EFFECT*

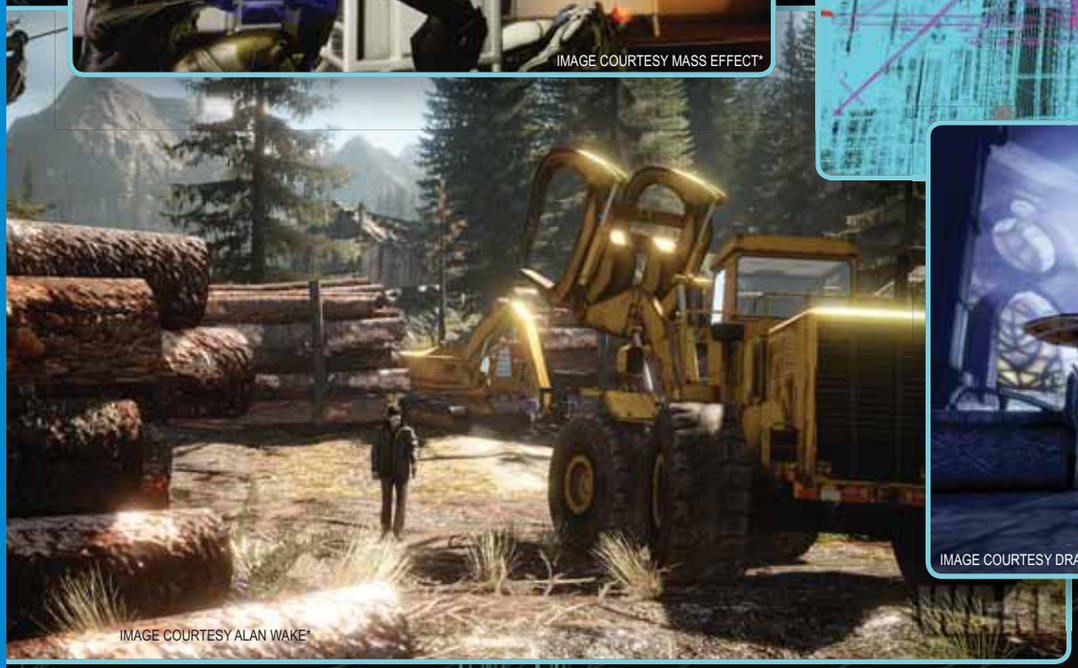


IMAGE COURTESY ALAN WAKE*

IMAGE COURTESY DRAGON AGE: ORIGINS*

Geomerics Enlighten

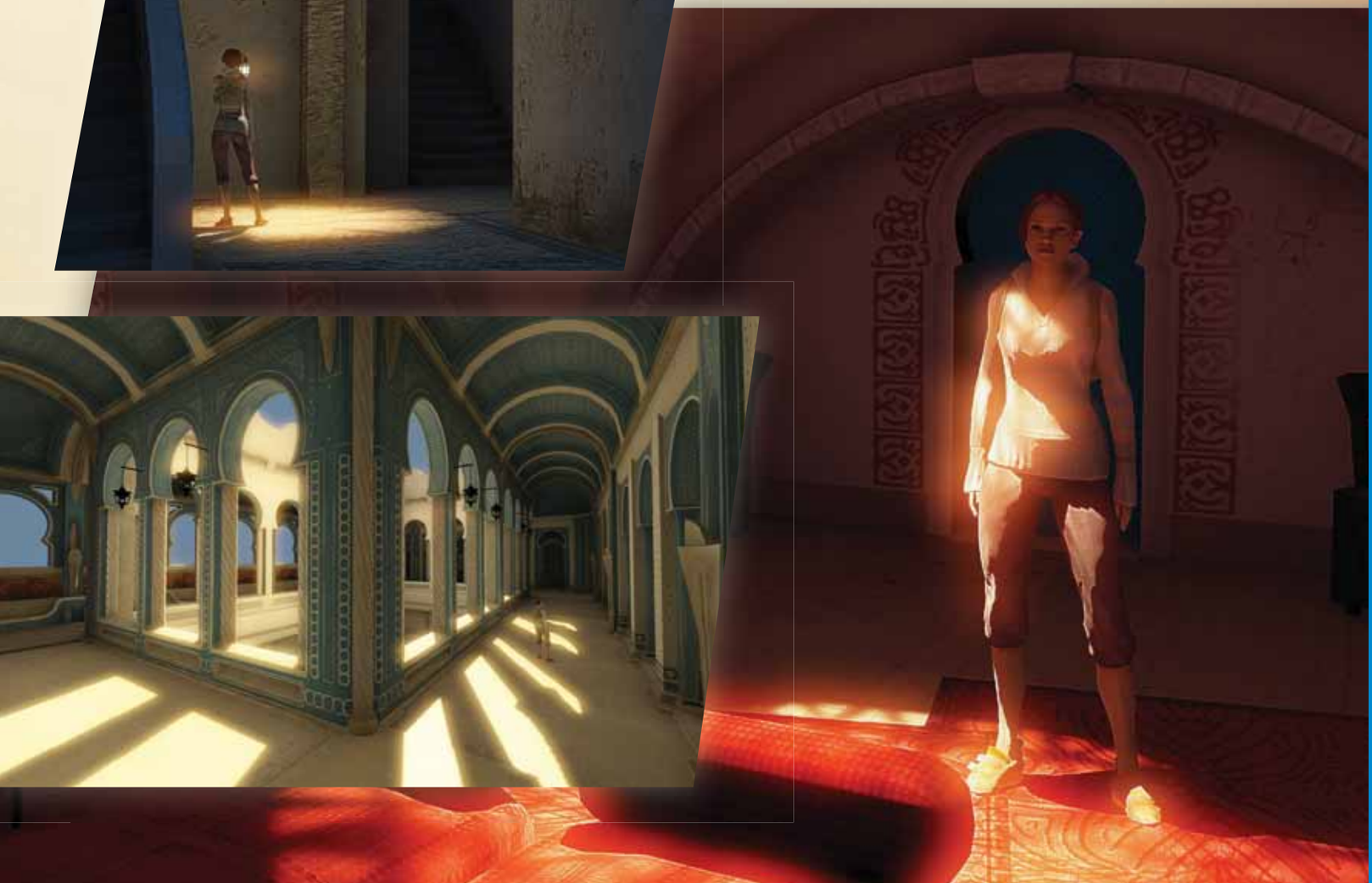
Enlighten* from Geomerics gives artists the ability to interactively experiment with dynamic lighting during game development.

Delivering real-time radiosity lighting in a way that lets artists light scenes with the precision of a film director, the Enlighten software development kit provides an effective means to enhance the visual appearance of Triple-A game titles.

Used effectively, middleware can help game development companies lower costs by providing solutions that address primary challenges—including lighting. In a recent GamesIndustry.biz interview, Gary Lewis, chief executive officer of Geomerics, noted, "I think every industry is looking at costs," he said. "Even the games industry has to be very aware of what they're spending on games. We're fortunate in the fact that the industry is still very buoyant and still growing at a tremendous rate—but we have to be aware that this probably will not continue at the extent that it has. I'm sure developers and publishers are looking at the overall costs, and they're looking at areas they can save—and Enlighten would help them."

Productivity is at the heart of the issue. "Enlighten provides a massive boost to productivity, especially when paired with the Intel® multi-core architecture," said Julian Davis, chief technology officer of Geomerics. "Game developers using Enlighten will love the higher fidelity and faster pre-computes. Just switching to the Intel® Compiler gave us a 20 percent performance increase, and using Intel® Threaded Building Blocks our developers were rapidly able to multi-thread the code in a scalable, future-proof way, giving four to eight-fold speed ups on current Intel multi-core hardware."

To explore the possibilities offered by Geomerics Enlighten, visit www.geomerics.com/products.htm. To arrange an evaluation, send e-mail to sales@geomerics.com.



IDV - SpeedTree

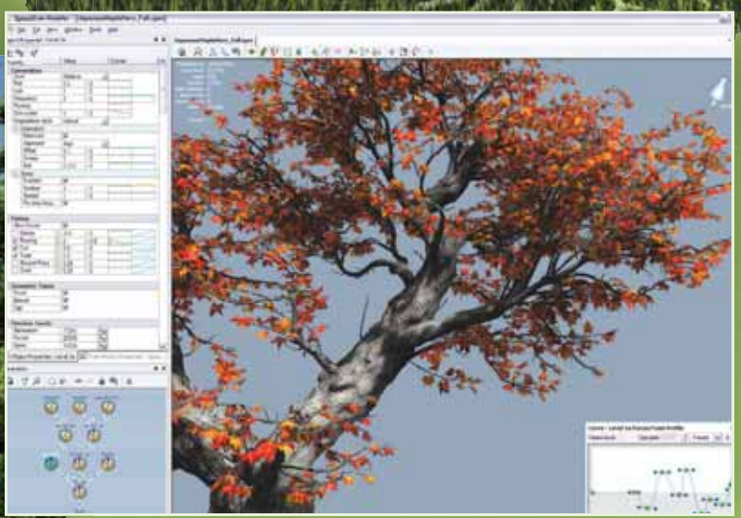
The jungles, medieval forests, city parks, and tropical gardens of the gaming world get a major injection of realism from SpeedTree*.

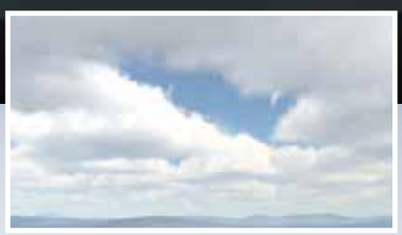
SpeedTree, a product of Interactive Data Visualization (IDV), is middleware that delivers lush, natural real-time trees and plants with seamless level-of-detail transitions; an array of lighting, physics, and wind effects; and an SDK programmed to support any level of engine integration. SpeedTree can be integrated by means of simple mesh export, through integrations with a number of popular game engines, as well as partial or full runtime integration with custom engines.

Optimization work for multi-core platforms, including the Intel® Core™ i7 processor, has dramatically reduced tree computation times for artists using the new tree Modeler, essentially doubling performance when moving from two to four cores. Game developers achieve a performance boost at runtime using SpeedTree when targeting systems featuring the Intel® 4 Series Express Chipsets, such as the GMA X4500, because of optimization and tuning work.

A product with a name like SpeedTree has to be fast. To that end, IDV was an early adopter of Intel® Parallel Studio. "The first time I recompiled SpeedTree using Intel Parallel Studio, performance dramatically improved," said Chris King, CEO of IDV. "I thought I was measuring it wrong. Since then, we've been getting 35 percent speed-ups in the CPU-critical sections of the SpeedTree runtime due to [Intel®] Parallel Composer and [Intel®] Parallel Amplifier. We are completely hooked on the Intel® Compiler, and it has become a permanent part of our development environment!"

For more information about SpeedTree, visit www.speedtree.com.





Simul Weather

The Simul Weather*SDK uses the physics of light to create stunningly realistic 3D weather effects.

Game realism benefits tremendously from realistic sky images. Taking maximum advantage of the capabilities of any available hardware platform, this middleware streamlines processor-intensive operations involving lighting and volumetric effects that change over time, such as the movement of clouds.

Lighting and atmospheric effects change significantly throughout the day and—without a middleware solution—game developers can easily expend hundreds of hours trying to capture the appearance of the sky in a convincing way. Simul Weather has captured the sky calculations, including accurate distance-fades, with drop-in source code for sky and cloud renderers. Sample programs using DirectX* and OpenGL* clarify the process.

Parallelism contributes substantially to the real-time responsiveness of 3D weather effects, accelerating the calculations that perform cloud modeling and other weather phenomena, such as violent thunderstorms. Collaboration with Intel helped unlock the optimal performance of Simul Weather on multi-core processors.

"The Intel® Threading Building Blocks were surprisingly quick and simple to implement, and made the Simul Weather SDK really fly on the Intel® Core™ i7 processor, with close to linear scaling," said Roderick Kennedy, principal and founder of Simul Software. Simul Weather and Intel's tools open up great opportunities for game developers to integrate dynamic weather and clouds."

To view screenshots and videos of spectacular cloud formations, go to www.simul.co.uk/weather/media.

Trinigy Vision

The Vision* Engine from Trinigy gives game development teams around the world the technical and creative freedom to transform their imaginative ideas into immersive gameplay.

Designed to simplify workflow and eliminate the technical barriers that so often hinder game development, this high-performance game engine includes a full-featured, mature toolset and fluid integrations with major third-party middleware solutions. The Vision Engine is available on all major platforms and has been used in over 100 game titles.

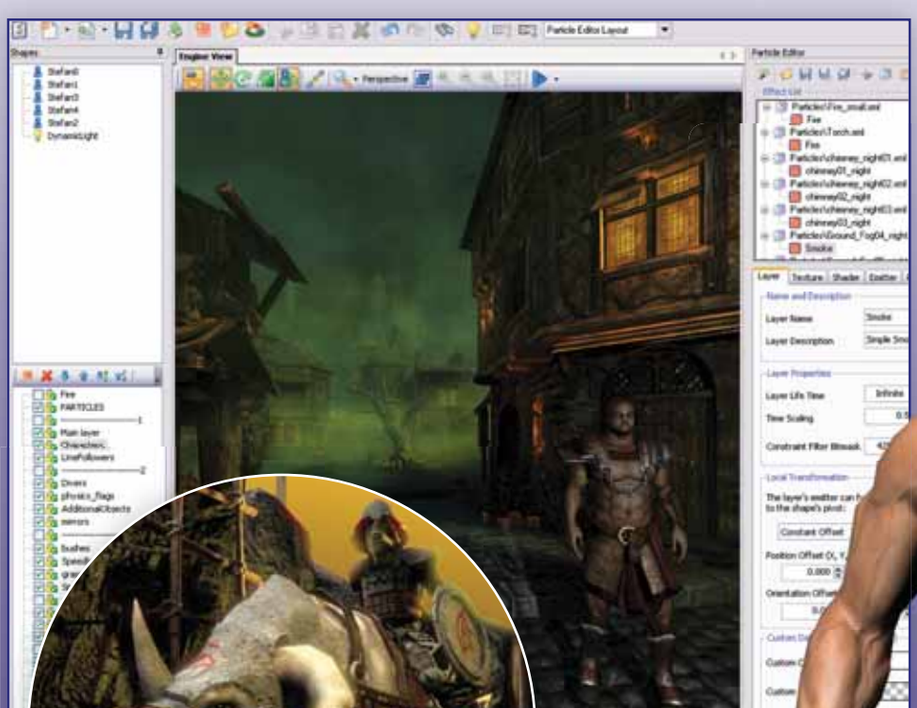
The integration of Havok Physics™ into the Vision Engine has captured the attention of the game developers across the globe. As Jeff Yates, vice president of product management at Havok, noted, ". . . we genuinely believe it will enable Trinigy/Havok customers to experience the most comprehensive physics and game-engine integration available in the commercial market."

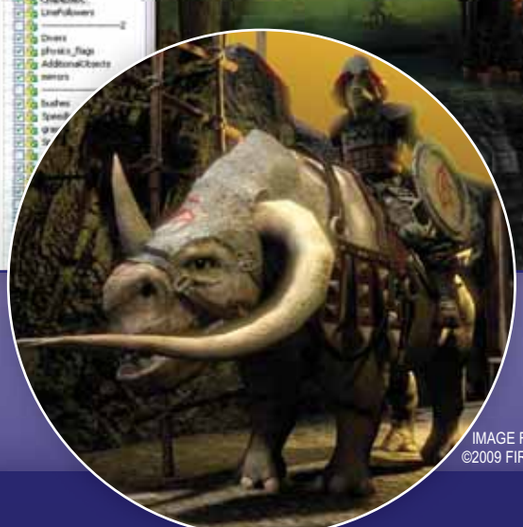
"We're really excited to have built-in support for Havok Physics," said Fabian Röken, co-founder of Trinigy. "Integrating Havok Physics into the Vision Engine with Havok's competent and highly experienced engineers will make it far easier for developers to take advantage of the extensive features in both solutions."

Intel® VTune™ Performance Analyzer and Intel® Thread Profiler have proven invaluable in the threading and optimization work for the Vision Engine, as well as the use of Intel development platforms for testing and quantifying the engine's performance on up to eight cores.

"It is a pleasure to work with Intel," commented Dag Frommhold, managing partner at Trinigy. "Their developer support is and responsive and has given us valuable feedback on how to optimize the Vision Engine for Intel's latest CPUs and graphics hardware."

To check out the latest developments or to request an evaluation kit, visit www.trinigy.net.





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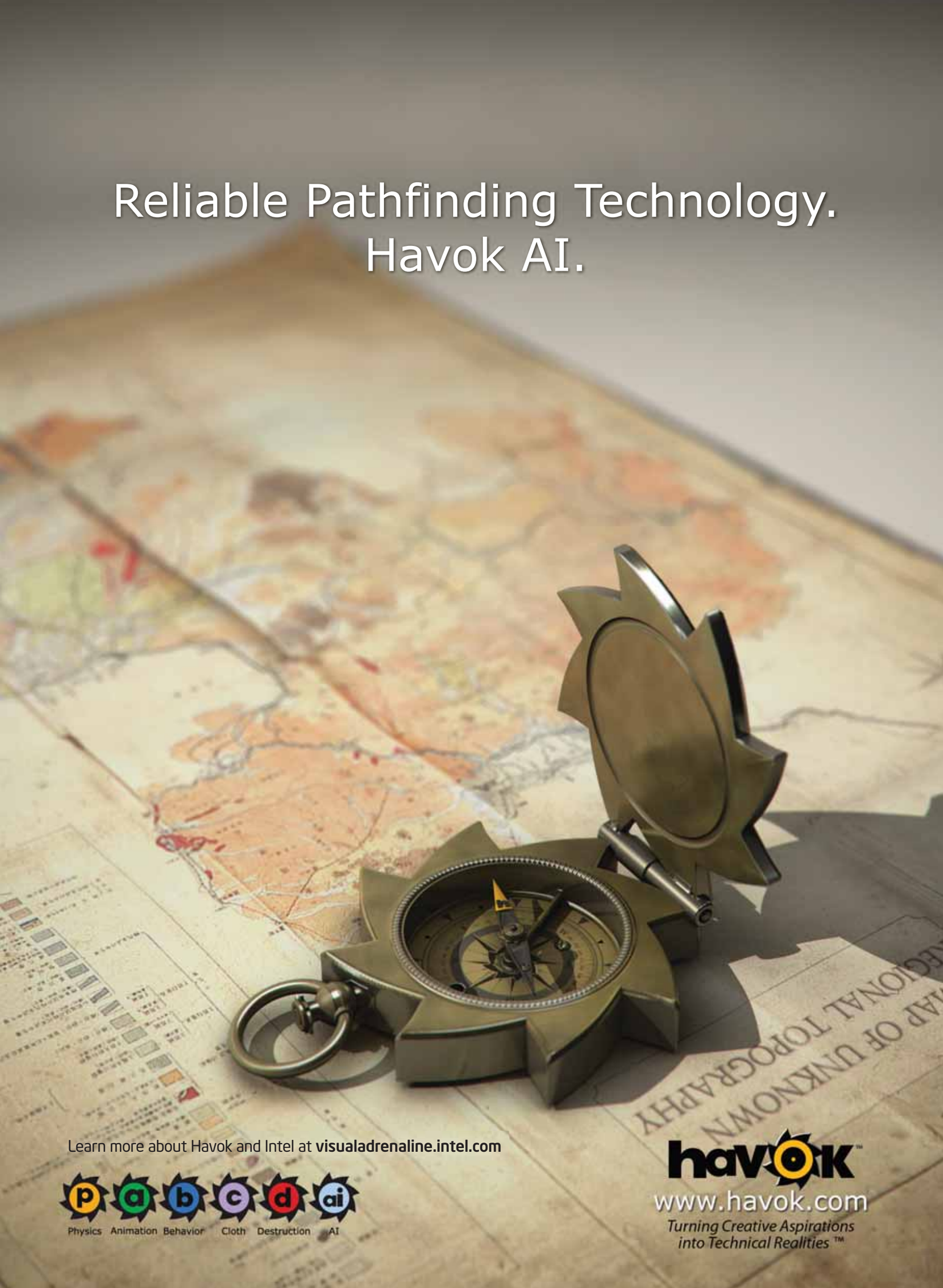
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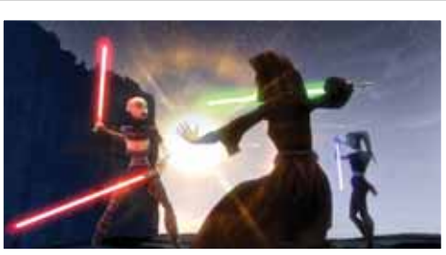
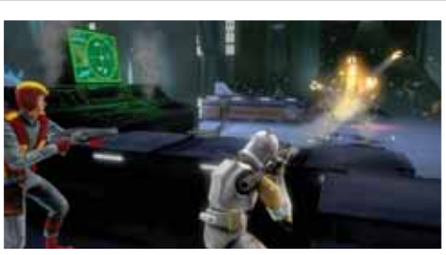
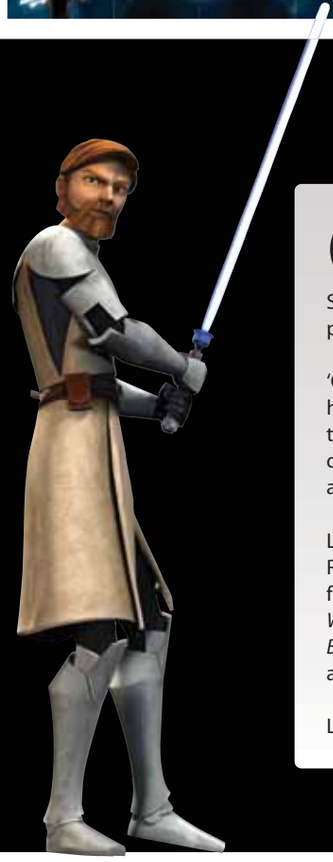
BY GEORGE!

A minority of developers get to work with IP like Star Wars. George Lucas' world is meticulously detailed and fiercely guarded, so how do the lucky few go about capturing the spirit of the most popular licence of all time? WILL FREEMAN spoke to LucasArts to get some answers...







George Lucas is something of a spectre. Walking the corridors of the various LucasFilm buildings scattered around San Francisco and the surrounding hills, his presence can be felt everywhere.

Speak to any of his staff, and they mention 'George' almost immediately. There's a sense he is an omnipresent overseer, conducting the *Star Wars* universe from behind closed doors. While the secretive director rarely appears publically, he sees everything.

And at the time of *Develop's* visit to the Letterman Digital Arts Centre and Big Rock Ranch, Lucas has plenty to preside over. The final touches are being put on the new *Clone Wars* game, the related TV series, a new *Battlefront* handheld release, and an additional *Lego Indiana Jones* title.

The several hundred staff that make up LucasFilm subsidiary LucasArts are the developers charged with designing games that compliment the elaborate, long-standing and hugely popular *Star Wars* universe, and as a result they are the people that know more than most about handling existing IP.

Now more than ever, they are working with their colleagues at LucasFilm, reining in the synergy between game, film and television series. From sharing technology to using the same voice actors, George's army of employees are getting to know one another better than ever.

At the very same time the LucasArts studios are being handed the opportunity to guide *Star Wars* main narrative canon in their own games, introducing new characters and plot threads of their own invention. It's a huge responsibility, and makes for a challenging time at Skywalker Ranch.

Above: The rolling hills that surround San Francisco and shroud Skywalker Ranch

"I'm constantly tasked by my masters to create that *Star Wars* magic. It is a very big challenge," admits Dave Filoni, creative director of the *The Clone Wars* TV series. As a man who works directly with Lucas, he knows more than most about staying faithful to what defines *Star Wars*, and increasingly he's finding his work crossing over with the games teams'.

GEORGE'S MARVELOUS MEDICINE

"We constantly have to ask ourselves 'what makes something *Star Wars*?'" he adds. "How do you get that feeling in the acting and the action? My mentor is George Lucas, and there couldn't be a better person to teach me. I've always felt good knowing George is on board and backing everything we're going to do. That means we can achieve that almost impossible task of capturing that something about *Star Wars* that makes it so special."

There's no doubt that Filoni is a lucky man, but how do the LucasArts developers that don't have regular access to George make sure they deliver product that encompasses the character of the *Star Wars* universe? The answer, it seems, is collaboration.

"It was actually really great working with the Lucas Animation guys," reveals LucasArts associate producer Vince Kudirka when talking about developing the recent video game accompaniment to the second *The Clone Wars* TV series. "I was really impressed by how early they got involved with the process of us making this game. The first time we visited all we had was some character art and a few animations."

"At this time the TV guys had spent over a year animating, and they gave us a huge amount of advice and feedback. That's something invaluable when working on IP like this. They helped us with the look and movement and poses even when our ideas were so early. And as they work so closely with George, they've really helped us put George's vision in the game."

Beyond that, the team behind *The Clone Wars* TV show have shared facial animation rigs and virtual sets with Kudirka and his co-workers. While the game developers have tweaked and customised the assets they have been given, removing unnecessary elements such as individually articulated fingers, using resources straight from the source material has been an invaluable boon in the campaign to realise the atmosphere of *Star Wars*.

SHOOT FOR TATOOINE

Time spent with those working on other LucasArts games reveals that success in capturing a sense of what defines *Stars Wars* is also pursued through design dogma. The ongoing conflict between the Empire and the Rebels is handled by LucasFilm's influential licensing department, and as a developer the way you approach your game can have a significant effect on the way it is handled by the powers that be.

"Rather than being timid in anyway, very early on we really shot for the moon and then let those in charge tell us what we can't do," says producer Cameron Suey, who is part of the group expanding *The Force Unleashed* with new DLC and a special *Sith Edition* release.

"We went for everything we could think of and said 'pull us back', which I think was a huge advantage for the development of *The Force Unleashed*, because thematically it was all about things gamers have never seen before. We actually started with pre-visualisation animations, and took that straight to licensing and to George and asked if we could go with what we had. It was actually surprising they said yes, because we really had gone big with Force Powers and such. However, we'd followed the concept of the big Force Powers shown in the original 2D *Clone Wars* TV series. What we were doing wasn't completely unprecedented, and it was probably respect to other new elements of the canon that had helped us so much."

It's a process that the licensing department seems open to, and the spirit of daring to push what the *Star Wars* universe can play host to is by no means exclusive to the *Force Unleashed* team.

> ***"There couldn't be a better person to teach me. I've always felt good knowing George is on board and backing everything we're going to do."***
>
> Dave Filoni, LucasFilm

"We work so closely with the licensing department, and they are definitely the holders of the vision," confirms Kudirka when discussing his time spent with *The Clone Wars: Republic Heroes*. "They rein us in if we get a little too crazy, but they're great to work with. They are pretty open to us doing different things, and creative things, even letting us introduce new villains or something like that."

"We're very lucky here," adds *Battlefront: Elite Squadron* product manager Pat Alvarado. "When working with Lucas' licensing team, it is the team that has been with George since the very beginning. They read and approve everything. The guys and girls here writing stories are die-hard fans too, and take great personal pride in being able to handle the IP. That's very important, and they've done an amazing job as a result."

There's one other important consideration when tackling Lucas' opus: the massive, fiercely passionate fan base. Whatever game you are making, the wrath of the consumer can be hard to avoid, but nowhere does the shadow of the fanboy loom larger than in the world of *Star Wars*. It would be easy to assume the LucasArts teams have grown complacent about creating under the microscope of licence devotees, but in fact, customer input remains of paramount concern.

"Taking into account fan feedback can certainly help in capturing the spirit of the universe," insists Alvarado. In his experience, pleasing those most familiar with the IP is inherently related to faithfully realising the quality of Lucas' original.

MAKE YOURSELF AT-AT HOME

Another element that helps those working on the new generation of *Star Wars* games is the way the development teams at the San Francisco are structured. For some, it's a matter of being able to stay in their teams beyond the life span of just one title.

"The more you work with a team, the better it is. I started out as a PA on the original *Force Unleashed*. That was years ago, as it was in production for a while," explains Suey. "When you get to know the people you work with, you all work so much more efficiently, you have so much less drama, and you all share a greater understanding of the fictional universe you're working with.

"Aside from knowing one another there's knowing the code we are working with, knowing the engine, knowing what DMM can do, knowing what Euphoria can do. Knowing the gameplay and what does and doesn't work was just a huge advantage. It's about having a knowledge base you all share."

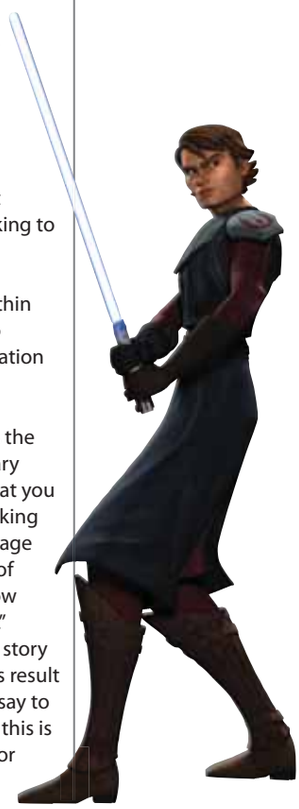
That philosophy of sharing also goes beyond individual teams at LucasArts, to working within a stone's throw of those tackling other *Star Wars* projects.

"We're especially lucky here at LucasArts to be able to see what other gaming projects are underway," states Kudirka. "We took a lot of pages out of *Lego Star Wars*' book for example. A collaborative effort really helps. Here at Lucas people are just next door, so looking to other *Star Wars* games can be a great resource for inspiration."

However, there's also a sentiment within LucasFilm's walls that there are gains to reaped from keeping a degree of separation between creators – something Filoni is certainly an advocate of.

"I think it really helps," acknowledges the writer on the subject of cross-disciplinary convergence. "It can't be a bad thing that you have the same people making one working on the other. But the way I try and manage it is that I don't like to step on the toes of the people making the game. They know how to make great games at LucasArts."

"Ultimately, if you have a really good story you'll have a really good episode and as result you'll have a truly great game. I always say to the games people 'Look, with that idea this is how I would do it. If that makes sense for you or not in your game, I don't know,



Left to right: Cameron Suey, Pat Alvarado, Vince Kudirka and Dave Filoni

but a Jedi would definately do that in our show,' for example."

What is immediately apparent to anybody that visits the home of George Lucas' creative empire is that there's a mutual love and respect for the licence. It's easy to dismiss a developer when they tell you that they've always adored the IP that is currently consuming their every waking hour. When that licence is *Star Wars*, and you're faced with legions of staff who live and breathe wookies and snow speeders, it's a little harder to dispute. The staff's energy is something like impassioned brand loyalty, and it translates into a fervent dedication to serving the brand with care and consideration.

"Everything we do at Lucas is definitely in service of a licence, and it's important to love that licence for multiple reasons," admits sound supervisor and voice director Dave Collins, who has worked across the LucasArts portfolio of games. "One, because it can be gratifying for you to contribute to, which motivates good work; and two, because you need to know it really well – there are fans on the forums that have so much knowledge."

"We really do shepherd the brand and watch all the different indicators that tell us whether we're hitting with our audience or not," agrees Howard Roffman, president of Lucas Licensing.

> ***"There's a very large and long history of great sound effects, great music and great dialogue in the Star Wars movies that we can use as a design template."***
>
> Dave Collins, LucasArts

"With George I always remember that it is his universe," adds Filoni. "He created it. He lets me create alongside him and I try to be the best student I can, and most importantly, I listen to everything he has to say. That's not to say that he and I can't go back and forth with things, and honestly, I get to quote his old movies on him all the time. But seriously, it's a great relationship when you get to work with George."

Being true to IP will always be a challenge from a development perspective, and with *Star Wars* that reality is amplified in manifold ways. At LucasArts, which is lucky enough to exist alongside some of the world's most renowned filmmakers and special effects pioneers, there's a constant focus on what the IP already offers. Designing gameplay off of the strengths of *Star Wars* hasn't guaranteed high quality results every time, but the company's games sell in huge quantities and the fan base seems increasingly delighted.

The last word goes to Filoni, who sums up the whole process of working on Star Wars IP perfectly: "Ultimately Star Wars belongs to George, and we just get to play in his Galaxy."

Force Feedback

PERHAPS MORE THAN ANY other movie, *Star Wars* and its sequels have created some of the most iconic sounds in cinematic history. We've all heard the yarn about Ewan McGregor having to stifle his desire to mimic the swoosh of a lightsaber when performing the combat scenes for Episode 1, and Darth Vader's infamous respiration remains as one of the most mimicked pieces of audio ever conceived.

Subsequently, any *Star Wars* video game has to feature exactly those sounds, and a myriad of others that stay faithful to the established style. With ears being so much harder to trick than eyes, which readily fall for illusions like animation and '3D' visuals on a flat screen, the LucasArts sound teams have their work cut out.

"We keep going back to the source material as a template for what makes great *Star Wars* sound," reveals David Collins, a sound supervisor and voice director that has worked at Lucas for some 10 years who has also contributed to *Monkey Island* and *Indiana Jones* titles. "There's a very large and long history of great sound effects, great music and great dialogue in the *Star Wars* movies that we can use as a design template for what we need to create. Having the iconic sound of a lightsaber, and the equivalent creature vehicle sounds and music in there really makes a licence. In fact, if you stray too far from it, it stops feeing like *Star Wars*. There are certain audio anchors that people need emotionally."

The importance of those anchors means hours of work for Collins and his colleagues, as replicating the original assets isn't as simple as simply ripping and porting the zap of a Blaster or the throbbing hum of a Tie Fighter.

"It's a matter of designing variations on a theme," suggests Collins. "For example, we can in a video game let the player spend a couple of hours on a planet that maybe appeared in the movie for 30 seconds, yet the 30 seconds of audio that was designed for the film becomes our template for fully realising a larger world."

Whether Collins, who like LucasFilm veteran Howard Roffman describes himself as a shepherd of the IP, is giving context to a voice actor's performance in the studio, or a co-worker is building an alternative explosion audio file, there is a constant pressure to match the quality and feel of the original assets. Even when the 30-year-old sound effects are used direct, they are heavily mixed-in to allow them to slot in neatly to the newly realised world.

"The best compliment you can get about a game based on a licence, and in particular a *Star Wars* licence, is when somebody reviews it or a gamer picks it up and says 'It sounds great. I love the way they pulled the sounds straight from the movies or TV show'," muses Collins. "While there's truth in that, absolutely, we've actually created hundreds, or sometimes thousands of audio assets that work in concert with the original audio. When we succeed in tricking the ear like that, it feels great."

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Novel ideas

Ukrainian studio 4A is currently building an ambitious FPS based on a cult Russian book, and in doing so has courted a particularly intimate relationship with the author. **Will Freeman** took flight to Moscow to learn more about how a fiction writer and games developer can work together…

There's an assumption that on the rare occassions a book is turned into a game, it is a process that absolutely favours the developer and publisher of the virtual work. Meanwhile the original author is often projected as victim; their oeuvre ransacked and cast aside.

That's not just because of the inherent scepticism that surrounds licensed software. In reality, titles based directly on the written word tend to arrive relatively independently from their source material, separated by decades or handshakes between license holders.

One game that bucks the literary trend is 4A's post-apocalyptic shooter *Metro 2033*. Published by THQ, the release is based on Dmitry Glukhovsky's cult work of speculative fiction of the same name, and shares a unique bond with its source material that can serve as an example to all studios eyeing the printed page for inspiration.

Only printed in 2005, and originally self-published online, *Metro 2033* quickly became a bestseller in its native Russia, where the book is set. Glukhovsky's manuscript was originally made public digitally before its completion, and as readers guided the author in expanding and concluding the narrative, the Ukrainian team from 4A got in touch.

Subsequently, far from pulling the rug from beneath the 30-year-old writer's opus, the game has become an integral launch pad for the author's vision of turning into the creative director of a broader fictional universe built on *Metro 2033*'s foundations. Even serving as a promotional tool for the imminent English translation of the novel, 4A's latest makes for a fascinating case study.

So what is *Metro 2033*'s secret? There are a lot of great books out there, and the creative relationship 4A and Glukhovsky share could inform the work of others.

> ***"This is a work of collective creation. I hope right now we're at the origin of something that becomes as big as Star Wars."***
>
> Dmitry Glukhovsky, Author

BY THE BOOK

From a studio's perspective, finding a forward thinking author like Dmitry is key. It might just be down to luck, but 4A uncovered the right project at the right time, and Glukhovsky has a very open-minded attitude to placing his IP in the hands of others.

"I don't know why authors are greedy with their worlds," the author tells us. "I have invented something, but I have other ideas. I don't want to stick forever writing *Metro*. Let's just start a work of collective creation and collective thinking and see what comes out of it. I hope right now we're at the origin of something that becomes as big as *Star Wars*."

That's an ambitious goal, and there's a smile on his face as he proposes trumping George Lucas. But there's also a glint in his eye that suggests his joke is only greeted with laughter because his intent is clearly genuine.

And as soon as he's started, Glukhovsky is already talking game sequels: "I hope this can be a really big thing. When people are creating a whole universe in a joint effort that could be really special – and of course support more computer games."

It's time to take a few steps back. Here is a man happy to see his novel turned into a game, and other young authors pen more novels, and before he's addressed the original *Metro 2033* he's already on to video game sequels.

As a young boy, Glukhovsky spent some 3,500 hours commuting on Moscow's Metro; a strange maze of marble floors, mosaic clad ceilings and chandelier lit platforms. Designed to serve as both underground transport network and, in places, a public nuclear bunker, the huge network is perhaps the world's most glamorous location designed for the apocalypse that the Cold War long-promised to deliver.

"I've felt very comfortable on Moscow's Metro, and always imagined it as a home of sorts," explains Glukhovsky, who was enchanted as a youngster by the concept of Moscow's residents fleeing to the tunnels to spend months underground. "The Moscow Metro is an incredible place, and certainly the greatest influence over my work."

So *Metro 2033* is set in the autonomous society that forms below ground in the wake of a nuclear attack, focusing on a community under constant threat from mutated beings on Moscow's razed surface. Perfect fodder for an ambitious video game, then.

THE WRITE STUFF

"We are absolutely satisfied by Dmitry's co-operation," says 4A's creative director and co-founder Andrew Prokhorob, who previously worked at *S.T.A.L.K.E.R* developer GSC Game World before leaving to set up A4. (A number of *S.T.A.L.K.E.R*'s staff followed him to the new outfit.) "Dmitry is a very clever person and understands that if he were to try and tell us what to do it would be bad. He is satisfied by how we are doing it."

Metro 2033 is an FPS – but drops the de rigeur multiplayer modes to retain the vision of the novel it is based on

Metro 2003 is set in a heavily populated subterranean post-apocalyptic world

The project certainly seems defined by a reciprocal appreciation between author and developer that may be hard for other studios to handle. In *Metro 2033*, 4A has assumed a huge responsibility in taking over and growing someone else's IP.

"Because of *S.T.A.L.K.E.R* 4A had something to show," says the novelist. "I knew what they were capable of, and that they had raw talent. In my position, you have to find talent, and give it freedom, instead of finding some mediocre developer and controlling them for every step. That would be exhausting and useless, because you cannot teach people how to be creative."

That's not to say Glukhovsky wasn't sceptical when a number of studios initially contacted him about adapting his tribute to Moscow's equivalent to the Tube: "Back then that made me very excited, and a little suspicious too, not from the viewpoint of about whether I should turn my precious book into a computer game, but in terms of who would turn my book into a computer game."

Clearly A4 were the final choice, and a number of factors, both cultural and geographical, made them the perfect fit. According to Prokhorob, author and developer's shared Eastern European mindset is an advantage.

"It's a question of psychology," he insists. "Maybe it's to do with the influence of the devastation of the Soviet Union – I really don't know. I played a similar game set after a nuclear war many years ago – I showed it to a friend, and he said 'Have you read this novel on the internet called *Metro*?' I read it and the same evening I sent a letter saying 'Let's make this a game.'"

But Glukhovsky admits that, really, the real reason he and 4A work so well together is because there's an aesthetic overlap in the Venn diagram that covers the original fiction and the first-person shooter studio.

"If you consider this book's formula, it's constructed as a shooter," proposes Glukhovsky. "Although it's a third-person book, and we have to follow step-by-step from the very beginning to the very end, what happens in the hero's head means that is is very much a first-person book. And a lot of it happens in tunnels. An FPS is a good fit."

> ***"Turning fiction into an FPS is not too dramatic a jump. Perhaps because I am representative of a generation that has grown up playing computer games."***
>
> Dmitry Glukhovsky, Author

"And turning all of that into a computer game is not too dramatic a jump. Perhaps that's because for me, being myself representative of a generation that has grown up playing compute games, it's not something wild for me."

NOVEL CONCEPTS

While it's a little early to pass critical comment on the quality of *Metro 2033*, it's clearly a game that takes its source material seriously, and the way it attempts to capture the spirit and atmosphere of the novel is, from a design perspective, particularly interesting.

"Key plot points we keep in the game, but it is impossible to just copy the book," says Prokhorob. "It's very difficult to make that work. If we did that the player would have to talk to himself for most of the game."

Eager to avoid confining Dmitry's world to cut-scenes, 4A's solution has been to pack the game with incidental in-game conversation. Roaming the underground fortresses that are Metro 2033's focal points, NPCs bid farewells to partners, trade ammunition for food, and argue playfully or gossip idly. It's curiously distracting, and certainly weaves the fabric of a believable society into a title that should have its potential constrained by the tunnels that are the project's inspiration.

"We certainly focused on an atmosphere of believability," confirms executive producer Dean Sharp. "That's why we've had to go with a refined game experience.

"In that context we discussed multiplayer, and it really came down to was that if we did it, it would really be a bolt-on; something that we were doing for the sake of doing it, so we

Dmitry Glukhovsky. the author whose collaboration with 4A Games is expanding the world in his novel

could say that we had it in the game. No matter what you do, if you're throwing more people at the project, and more money in, you're still going to lose focus trying to do multiple things, so we decided that it was a better route just to focus on a really good single-player experience."

Foregoing a box-ticking multiplayer mode in favour of loyalty to source material is a bold move, but one that may find favour with gamers, and a choice that has bolstered the relationship between Glukhovsky and 4A.

PULP FICTION?

So far so positive, but 4A's progress isn't without challenges; the main one being comparisons with other titles. In *Metro 2033*'s case it is of course its team's previous game *S.T.A.L.K.E.R* that draws the most associations. After all, GSC Game World's effort is loosely based on a cult Russian sci-fi novella, *Roadside Picnic*.

"The Ukrainian development industry is not huge, and in a way it was very incestuous at the time *S.T.A.L.K.E.R* was being developed," professes Sharp. "If you're a developer in the Ukraine, then you've probably worked on *S.T.A.L.K.E.R*. However, I worked on both, and I don't see any similarities between them other than maybe the setting and some of the look, but that comes from Prokhorob's head rather than anything else."

"There have been a lot of comparisons to *Fallout 2*," adds THQ's global brand manager Huw Beynon. "While it's a pleasure to be compared to one of the best games of all time, I think this is a very different experience."

It's an age old problem for developers, and one there seems no escape from. From 4A's perspective, there's an easy response to accusations of stylistic parallels. "It's no secret that you gravitate towards what you're good at," says Sharp, with a relaxed tone. If a game's good, then perhaps it just doesn't matter if its developer has covered similar ground before, from a narrative perspective.

> ***"Key plot points we keep, but it is impossible to just copy the book. If we did that the player would have to talk to himself for most of the game."***
>
> Andrew Prokhorob, 4A Games

"Maybe the next game I make will be bright and happy," jokes Prokhorob. It's a dry remark, and it probably isn't true.

CLOSING CHAPTER

Spending time with 4A makes it clear just how enthusiastic they are about creating a game based on Glukhovsky's creation, but it is time with the *Metro 2033* author that really conveys how the book and game are striding beyond Eastern Europe to the rest of the world. This project also gives the *Metro* IP a new lease of life globally.

"I believe that this is part of the origin of something much bigger and ambitious than just one national bestselling science fiction novel, into an original, authentic and interesting fictional world," asserts Glukhovsky, who highlights authors including Ray Bradbury and Gabriel García Márquez as his greatest influences.

"I don't want to stay forever as a science fiction writer, but I want this sci-fi universe to stick. I've been living in this universe for ten years now, and I want to move on. This game is the start of me opening the doors of the universe to other authors.

"What I have seen from THQ, and especially from 4A, is very original work, very authentic work, very enthusiastic work, and provides an incredible feeling of the atmosphere and spirit. On the part of THQ I've seen real enthusiasm and commitment. I believe this is an alliance that is good for gamers."

It's tempting, when words like 'alliance' are used, to draw comparisons with clichés about Communist Russia, and the shadows of hulking statues from the Stalin era still cast long shadows over the streets and psyche of Moscow. Whether that fact contributes to what 4A and Glukhovsky have created between them is hard to quantify, but what is certain is that they are creative comrades, and together they have built a working model that other developers would do well to observe.

www.4a-games.com

ENGINE OF CHANGE

METRO 2033 IS BEING created entirely in the proprietary 4A Engine, which provides a complete development platform for 360 and PC using DirectX9 and DirectX10, and has been built in collaboration with Nvidia.

"I don't know why anybody would ever use pre-developed engines," reveals exec producer Dean Sharp. "I guess I understand from a financial side, but if you have the technology to make your own, it doesn't make any sense to use a pre-developed one.

"That's mainly because as a developer you're forced to work in the way that whoever made the engine worked. Generally that means that some studio made an engine that suits the way that studio works, and then decided to sell it later."

The 4A engine is clearly a piece of kit that the studio is proud of, and on paper it boasts a relatively impressive feature set.

As well as a physics system that can harness multiple CPU cores, AGEIA PhysX or nVidea GPU hardware, 4A Engine features a gamma correct, linear colour space renderer. That means a host of capabilities to allow for tone mapping, exposure adaption and blue shift, and a range of capacities covering lighting, weather simulation, deferred reflections, dynamic lighting and geometric displacement mapping.

4A's tech also allows for 3D sound positioning, spatialisation and attenuation as part of its multi-threaded audio system; a structure that takes advantage of constant memory usage and data-driven design. Finally there's a designer-focused set of AI tools, and in-built streaming technology optimised to handle all major resources.

"From our standpoint, there wasn't anything out there that could do the things we wanted," says Sharp. "We feel that we have a better engine than what's available, and are able to work in the ways that we want to work in. And if there's something that needs to be added to the engine or modified, that's something that we can do."

The Royalty Family

How much attention do you pay to your royalty statements? Loxley Royalty Management's **Faye Sieracki** discusses why you might be missing out on your dues…

Here's a sentence to reel you in: royalty management is all about finding lost millions for developers. But first, we should define what royalty management is.

Royalty management is a generic description for the management of all royalty or profit share based contracts, usually between the developer and the publisher, or other related parties. This includes, but is not limited to, general advice on contract wording and observations on possible income, suggested improvements to contract clauses, possible contract omissions and checks on audit rights.

The focus of RM is on the practical application of a contract. RM partners may also offer specialist audit services including desk review (pre-audit advice), audits and reports together with regular statement maintenance to ensure your royalty stream is managed throughout the lifetime of the title. RM partners compliment your legal counsel and your agents' activities.

IT ALL ADDS UP

That's a grand opening statement, with a lot to take in, and I can hear you all now: "So what? What does that *really* mean to me as a developer?" Well, I guess the easiest way to highlight the benefits of undertaking well co-ordinated RM activity is to throw out a figure. ***$16m***. That's the total sum of monies that both Media Forensics and Loxley Royalty Management have jointly uncovered for developers since our inception in 2002. That figure again – $16m. That's a lot of money.

From this you can see that a developer who adopts royalty management as a core activity within its business benefits from the knowledge that they are keeping pace with the products performance in terms of sales, returns, deductions and, ultimately, the royalty or profit share resulting from this activity. They will understand the implication of every detail in the contract, and will be in a great position when it comes to future negotiations. Further to this, if you choose the right partner, the developer/publisher relationship can be strengthened. Royalty management is – or should be – an intrinsic part of the developer business process. It isn't there simply for when things go wrong.

Faye Sieracki, Loxley Royalty Management

So we know that you *should* be taking a keen business interest in RM, but what exactly *is* an audit? Even the word scares a lot of people – think a tax or VAT audit – but in reality it shouldn't. A royalty audit is made up of an executive summary containing information on the errors found (if any), sales and market data, the methodology used by the audit company, detailed checks and any findings explained at length. A conclusion, useful recommendations on the next steps, and any suggested contract improvements will also be supplied so to make moving forward productive and painless

> ***"A developer who adopts royalty management in its business benefits from keeping pace with their products in terms of sales, returns, dedcuctions and profit share."***

CO-PUBLISHING vs STANDARD AGREEMENT

But let's go back to basics for just a moment. Most developers take their product to market in one of two distinct ways – either via a standard publishing agreement, by far the most popular occurance within the industry, or via a co-publishing deal. In a standard publishing agreement, where an advance is recouped over time and a royalty paid thereafter, the contract clauses pertaining to the *definition of net receipts and the audit rights* become the key focus of the audit, together with checks on the advance and royalty payments to date.

In a co-publishing agreement, for example, where some kind of profit share is in place, more of the contract terms are audited due to the nature of the agreement. For instance, marketing spend may need to be checked by territory, and wholesale pricing rules may apply. With a co-publishing audit there is usually a lot more to review and validate, with a corresponding greater depth to the report.

If all this sounds as though it's intrusive activity, to a certain extent you'd be right. A publisher's royalty team will need to work with the developer's auditors to provide information, but this is why they're in place. If an audit is carried out properly there should be no negative impact on the business relationship as it stands and, in a lot of cases, should actually strengthen the relationship.

By 'carried out properly' I mean that the chosen auditor is knowledgeable, understands the videogames business and is fair and equitable. There is a danger that things could go wrong if a contingent auditor, working on a success fee, spends an unreasonable amount of time on an audit hoping to uncover something. Publishers royalty teams traditionally have little patience for long drawn out audits and general procrastination. But, if your royalty managers are a specialist team with a proven background working on a fixed fee, or even a lower day rate, perhaps with a bonus structure, you can expect a professional, tactical approach which will leave your relationship 100 per cent intact long after the audit has finished.

To get a publisher's perspective on this, I spoke to Laura Cohen, royalty director at THQ. I chose THQ because the publisher offers an excellent example of how systems and processes should work in the video game business.

"The relationship between a publisher and developer should not be negatively influenced if the developer exercised their audit rights," said Cohen. "Many times developers are just looking for a royalty statement that provides sufficient unit and net sales information to see how calculations are derived from the contract language previously agreed upon by the parties."

She added: "This information often reduces developer concerns that sometimes lead to the exercising of audit rights. If an audit is requested by the developer, it is up to the third party auditor and the publisher to ensure the audit is conducted professionally, timely, and in a smooth and non disruptive manner. Written notice should be given to the publisher notifying them of the developer's desire to audit. The publisher and independent third party auditor should agree to the scope of the audit and the support that will be provided prior to any fieldwork. The publisher should be allowed enough time to gather and organize the support before actual fieldwork begins. If these preparation steps are taken, the audit can be conducted in a timely manner."

Oxford-based handheld and iPhone developer Exient, has adopted an RM model for the past five years. "We've employed RM specialists to provide analysis and reports on our royalty statements, and we regularly receive feedback and advice on contract points," explains David Hawkins, managing director of the firm.

"Exient benefits from a consistently current and accurate picture of the commercial success of our titles. This, in turn, frees up my time so that I can focus on other business priorities knowing that I will be provided with the guidance and information when needed."

DISCREPANCIES

As we can clearly see, an audit carried out in the correct way has the potential to do a lot more good than harm. In fact, there are very few reasons not to audit.

But what about when an audit shows a discrepancy? After all, my opening paragraph stated a figure of $16m so there are *clearly* accounting discrepancies to report. Should we assume that there has been some catastrophic failure in the system and everyone is ganging up against the developer?

No, not in the slightest. Most errors are just that – errors, mistakes. These can be made throughout the statement, for example with incomplete sales numbers, missed bundle sales, OEM and license deals omitted,

> ***"An audit could result in getting you nearer to 'recoup', and also helps to reassure the company directors and shareholders that you are managing and verifying the flow of data into your company."***

incorrect royalty percentages applied, underspend on marketing, cost of goods overcharged – the list is almost endless. Errors made are rarely, in my opinion, malicious. Of course, there is also the flipside of the coin – the one where audits actually go against the developer. It rarely occurs, but I have seen corrections needed which reduce royalties payable to the developer. In my experience it tends to be a small correction and, as long as there's no refund clause, it won't cause the developer to lose sleep.

EXPENSES

There are obviously costs involved in auditing a royalty statement, and these costs can vary greatly depending on which route you take. A typical audit within the UK – most audit companies can also carry out work in overseas markets – can take as little as one day and as long as three weeks. If you have a very successful triple-A product released across three or four platforms on a co-publishing agreement, then you could realistically expect the audit to take between eight and ten days. The going rate for an audit company can be anywhere between £500 and £1,000 per man day. Accounting firms may choose to charge differently, depending on whether a partner or junior member of staff is working on the audit. If available cash is tight, then a good option may be to negotiate a lower day rate and higher contingency or bonus, but check your contract first as a contingent auditor is not always contractually permitted.

Auditing is sometimes seen as a bit of a black art, but it should be seen as an almost essential part of a developer's business strategy. An audit could result in getting you nearer to 'recoup', and also helps to reassure the company directors and shareholders that you are managing and verifying the flow of data into your company. Additionally, the information you learn from the audit could be of real value elsewhere in the business so there are really very few circumstances where an audit is a waste of resources.

THE REST OF THE WORLD

Outside of the videogames industry is a world of licensors and licensees; those that own IP and those that effectively lease it. These various industries adopt an annual approach to auditing and treat it as part and parcel of the bigger picture. It is, in effect, the norm. With the continued maturation of the publishing and development industries isn't it perhaps time that royalty management was seen as an entirely normal business practice within these disciplines as well?

Faye Sieracki will be speaking at 'Best Practices in Running a Games Business', a free event hosted by Sheridans, on the 28th January, 2010 from 5pm. Spaces are limited. To attend email: events@sheridans.co.uk

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Faye Sieracki headed up the Customer Logistics team for Microprose in the '90s. Her remit included all aspects of supply chain and distribution, including royalty statement production for third party developers. In 2002 she co-formed Media Forensics, a dedicated games audit company. In March 2009 Loxley was born to continue the great work of Media Forensics.
www.mediaforensics.com

Blast through the past

How do you update a gaming icon like Space Invaders to appeal to contemporary gamers? Taito's Reisuke Ishida, director and graphic designer of mobile game Space Invaders Infinity Gene, tells all to **Will Freeman**…

Taito's Reisuke Ishida, director and graphic designer of Space Invaders Infinity Gene

The adage about the difficult second album is certainly one many developers can empathise with. Creating the sequel to any treasured game presents an immense design challenge for the team involved.

So how can you hope to succeed when tackling a project that is approximately the 30th successor to an icon of the industry's early history? Reisuke Ishida is a man who knows the answer. As director and graphic designer of *Space Invaders Infinity Gene*, he and his colleagues have met with critical and commercial success in creating a sequel to the oft mishandled and seminal arcade shooter.

Charmed by the game and keen to understand how Ishida approached Taito's most revered IP, we spoke to Ishida the motivation behind the project, why he deliberately made the game look harder than it is, and the artist's pursuit of synathesia.

How do you find creative motivation when developing a game for a series that has already seen so many sequels and revisits?
I began this project with two questions in mind: how is *Space Invaders* thought of by the general public, and what do people want to see in a new *Space Invaders* game?

The original *Space Invaders* was an epoch-making game that challenged people's preconceptions about what games were capable of. But 30 years have passed, and I think the younger generation don't know much about the original game and its importance.

I thought about how best to present the appeal of *Space Invaders* to this new generation, and I concluded that it wasn't enough to just create an attractive game of itself. The new game needed to show how *Space Invaders* impacted gaming culture.

In the end, I decided to create a game that was based on the original, but then guided players on a tour of the evolution of the shooter genre, ending up as a completely new, state-of-the-art shooting game.

What design approach did you take to ensure that you balanced a respect for the 'feel' of the original *Space Invaders* with delivering a fresh gameplay experience?
With *Space Invaders Infinity Gene's* evolution system I took a gradual approach, diverging from the original experience in steps. I also took great care to design new graphics that would blend well with the original characters.

The original design made effective use of simple pixels, and as a result they don't blend very well with three dimensional or more organic designs. When shown together with those kinds of graphic elements, the invaders tend to stand out and look out of place. In order to preserve the game's feel I decided to go with a stripped-down, pixelated and geometrical look for the game's graphics.

Also, when Infinity Gene first loads up it displays a parody of the arcade game's attract mode screen. We've included this and many other references to the original *Space Invaders* in an effort to bring smiles to the faces of long-time fans. During the course of play, Infinity Gene evolves into a completely new experience, but everything is intended to tie into its preceding title.

> ***"I thought about how to present the appeal of Space Invaders to this generation, I concluded it wasn't enough to just create an attractive game. It needed to show how the original impacted gaming culture."***

Recently the 2D shooter has seen a small return to popularity and now caters for both casual gamers and the dedicated, hardcore players. How did you approach setting the difficulty in this context?
I set the difficulty so that even less skilled players could complete the game. Recent shooters demand an incredibly high level of skill from players, so much so that some are nearly impossible to beat even if the player knows exactly what strategy is necessary. With *Infinity Gene* I did my best to create a game that – with practice and steady nerves – anyone can beat.

For example, I went out of my way to place 'safe zones' in the levels, something not often seen in recent games, and some difficult-seeming stages become considerably easier if players take advantage of the different weapons available.

Another major difference between *Infinity Gene* and other shooters is that the enemy attacks are intended less to destroy the player's ship than they are to create excitement. The result is that while some scenes appear at first glance to be incredibly intense, a large part of that's due to the flashiness of the attacks, and many players will discover that it's not as difficult to avoid the onscreen onslaught as would be expected.

We've tried to balance the combat so that it provided both the right amount of intensity as well as a sense of exhilaration. Our goal when designing stages was to promote a feel of exhilaration, allowing players to feel as if they're participating in a music video.

I'd love it if even non-gamers were to try the game, approaching it with the same casual mindset they'd have when watching a music video.

What 2D shooters were influential when creating *Infinity Gene*?
I'm a huge fan of shooting games, so you could say I've been influenced by them all, but Taito's *RayCrisis* had the biggest impact on me, although that's more 3D shooting.

While it's not an uncommon quality now, *RayCrisis* was effective when it came to the fusing appealing, exciting visuals with the actual game play. With *Infinity Gene* I hoped to achieve a similar fusion between the music video-style visuals and game play, so *RayCrisis* was a valuable source of inspiration.

And what about games from other genres? Did they influence your work?
While it wasn't at the forefront of my mind when designing the game, I think I was slightly influenced by the RPG genre. Not by a specific title, but by the elemental systems common in RPGs – water-based attacks are strong against enemies associated with fire, that sort of thing. While the idea that effective weapon choice grants an advantage in combat has long been present in the shooter genre, I was more inspired by the systems seen in RPGs.

In this genre the elements tend to be associated with a particular color, but usually a player has to read the instructions to

understand the associated strengths and weaknesses of each element. With *Infinity Gene* I wanted to create a game that would be playable by anyone the world over without relying on written instructions, so the game emphasises whether or not a given weapon is more or less effective with certain enemies, allowing players to naturally recognise the difference and adjust their strategy accordingly.

The evolution system, where new capabilities develop as the player collects points, is also very similar to the advancement systems seen in RPGs.

What were the challenges of designing a shooter for the iPhone?
It was difficult coming up with a control system that would be stress-free for the player, but I don't think that's particularly special to the shooter genre with regards to the iPhone. I experimented with a number of different schemes before finally arriving at the one that appears in the final game.

I originally planned to allow players to select from multiple control methods, but after actually trying these alternate systems we discovered that the one finally adopted in the game was the most user-friendly and intuitive by far. We thought that having multiple systems could end up confusing the player rather than provide any real benefit, so we discarded the other options.

The control system used in *Infinity Gene* is completely synchronized with the movement of the player's finger, and as a result there's no upper limit to the speed at which the player's ship can be moved. Some were concerned that this would adversely affect the game balance, but in the end stress-free play was more important to me than balance.

If the controls aren't pleasant to use, other aspects of the game end up limited as well. It's pointless to come up with interesting enemies or levels if control-related issues end up preventing players from defeating them, and for that reason the controls are absolutely critical.

Speaking of easy to use controls, if the continuous auto-shoot is turned off in the settings menu, players can toggle shooting on and off by simply touching the screen with three fingers at once. This option is intended for the hardcore shooting fans, and isn't necessary for more casual players, but it's very user-friendly and ideal for players attempting the hard mode or those looking to maximize their high scores.

The audio in *Infinity Gene* feels very much interconnected with the gameplay. How much was the development of the gameplay and sound integrated? Was 'synaesthesia' a goal?
Yes, that was definitely a goal, and I'm happy you picked up on that. When coming up with a new game, I make a point of thinking about the game's sound from the very beginning. I find that this promotes a more synaesthetic experience, and helps avoid becoming overly reliant on the visuals.

> ***"The control system used is synchronized with the movement of the player's finger, and as a result there's no upper limit to the speed at which a player's ship can be moved."***

From the white noise at the title screen to the jolting sound effect played at the game's start, I gave very explicit instructions for all of the sound effects and music in the game, listening to the results over and over when determining what sounds should be placed where. In fact, it's quite possible that I spent more time listening to the sound effects than the designer responsible for them!

Like I said, I had very specific requirements for the sound. I wanted to avoid the typical bright 'piroreen!'-style sound effects when items were picked up and during the introductory portions of the game, so I went out of the way to have a 'gamish' sound for enemy explosions, and so forth.

These kinds of decisions are made when developing all games, but the concept behind *Space Invaders Infinity Gene* involved a very delicate balance, so I paid an unusual amount of attention to its finer points.

The in-game music plays an important role in reinforcing it's evolutionary theme, with music growing more layered and elaborate as the game progresses. Many players wouldn't notice this without comparing different tracks in the sound collection menu, but I think that they subconsciously feel the evolution.

How important was the involvement of members of Zuntata – the in-house sound team?
Depending on the project, we sometimes use outside sound designers, but because *Infinity Gene* was intended to carry on the DNA of *Space Invaders* – and that of Taito as a whole – we decided it was only right to have the music handled by an important part of Taito's genetic makeup, our sound team Zuntata.

Even so, designing the music for the game was quite a struggle. One issue was the game's story. It wasn't the obvious 'Invaders have arrived from space! Can you defend the Earth from their insidious attack?' Instead the game's underlying point was the evolution of the shooter genre, so I wanted to avoid emotional music – I wanted a 'game-like' solid sound. On the other hand, it was just as important to avoid an overly flat sound.

I told the composer Hirokazu Koshio to come up with something unemotional but dramatic and daring, a tricky request that put a great deal of pressure on him. But with countless meetings and retakes, the sound gradually began to come together.

We wanted to show an unbroken connection between classic games like *Space Invaders* and modern games. The idea of using once-ubiquitous FM sound sources in *Infinity Gene* and other unusual techniques were born out of this effort.

I demanded a great deal from Koshio, but thanks to his dedication and hard work, the final result turned out great. I don't think my goals and expectations for the music could've been met without Zuntata's extraordinary pride and deep understanding when it comes to *Space Invaders*.

What are you most proud of with *Infinity Gene*?
The use of evolution as the theme, I think. Not only does the game use *Space Invaders* to trace the evolution of gaming, it's also a love letter to the gaming culture as a whole. If it helps even one new person rediscover the fun and wonder of gaming, then I'll be very happy indeed.
www.taito.co.jp

The new Space Invaders Infinity Gene portrays the evolution of gaming culture

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A word with the Wwise

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EPIC DIARIES: FREE VERSION OF UNREAL UNVEILED > P73

Feel free

LAST MONTH, WE WERE a little bit flabbergasted in this here column. See, we'd just been told that Unity was going to abolish its Indie licence and, instead, going to release it for free, but rebranded simply as Unity.

Big stuff indeed. But then, just a few short days later, we find out that Unity isn't the only one going free: Epic, they of massive muscle Unreal Engine 3 fame, introduced UDK – an essentially binary-only version of UE3 free for non-commercial use.

Is it fair to say that Unity kicked off something? Not really – it's unlikely that Epic made the move in reaction to a company that it probably doesn't even count on competition, given the fact that they target very different types of developers. But it is a clear sign that Epic isn't happy with just the triple-A crowd any more.

Staff at smaller studios have told us that Epic has been keen to widen its reach for quite a while now, and that UDK is just a general-purpose way of doing it. Unity are perfectly honest with their reasonings for going free in our interview on page 20, saying that their money comes from upselling to Unity Pro, as well as the two 'special' versions that both require a version of Unity – Unity for iPhone and Unity Wii.

UDK is exactly the same. People are given the tech – the toolset that's powered countless games – with the hope that they'll make something worth selling, at which point they'll have to upgrade to a commercial licence at what is not dissimilar to the no-money-upfront licences Epic was touting to the little guys not that long ago. Want to sell it on Xbox 360 or PS3 or WiiWare? Ah, you'll need a normal Unreal Engine 3 licence for that.

Hook 'em then reel 'em in. Looks like engine vendors just got a new sales technique…

Ed Fear
ed.fear@intentmedia.co.uk

Kinetic

The latter part of this decade has seen FMOD and Miles' dominance of the audio middleware market seriously challenged by Montreal-based Audiokinetic's Wwise. **Ed Fear** spoke to Simon Ashby, the firm's VP of product strategy, to see how this year's new products have gone down and what's next for 2010…

How has the past year been for Audiokinetic?
It's been a good year. We're growing our market share and expect this to accelerate in the year to come. I think the fact that we are seeing more Wwise titles shipping is helping undecided customers to make the jump to Wwise.

You've recently signed a long-term deal to work together with High Voltage – how is that partnership going to work and shape the future of your products?
Long term agreements such as this one are a confirmation that what we offer today is in line with what developers expect. This kind of partnership is key and will allow us to work closely with our users to shape the future of interactive audio.

Would you consider similar deals with other studios or is it an exclusive thing?
Absolutely. As long as it's mutually beneficial, we are open to different kinds of partnerships.

What's new in v2009.3 of Wwise that addresses issues developers are facing?
We partnered with McDSP, a high-end developer of effect plug-ins for the music and post-production industry, to make

> ***"The next lot of platforms will certainly facilitate improvements, but I feel that a fair number of games use just a fraction of what's available now."***

Energy

some of their effects available in Wwise. Having third party effects available for games through Wwise has been a long term goal of ours, so we are pretty proud of this accomplishment.

In addition to that, a lot of triple-A titles are using Wwise and we have added several features to help these clients deal with large scale projects. For example, the Profiler Statistics view was introduced so that our users can track the real usage of dialogue in their games. Another example is how we've optimised our Ogg Vorbis implementation. Each compressed file now has a much lower memory footprint. We've also created a new File Packager that helps developers to efficiently manage and ship DLC.

You launched the first SoundSeed products this year as well – how have they been received so far?
We have received good feedback so far with SoundSeed Impact even though the barrier to entry has been relatively high. The real birth of the SoundSeed product line arrived this past summer when we shipped SoundSeed Air. Our users love the product and are using it for all kinds of situations.

Are you planning any future versions of SoundSeed beyond Impact and Air?
Without a doubt. I truly believe that sound synthesis is one of the areas of interactive audio that will evolve the most over the next few years. The CPU resources are now available and the sound synthesis algorithms offer more flexibility than pre-recorded wave files, especially when it comes time to shape a sound at runtime.

What will 2010 hold for Audiokinetic's stable of products and the company as a whole?
2010 will see new highly advanced DSP products, such as new SoundSeed plug-ins and a convolution reverb running on the different gaming platforms. This is the branch that consolidates our position as the innovative leader for audio in this industry.

On the other hand, most people adopt Wwise for the quality of the feature set, the stability, the performance, our support, and for the entire development pipeline solution Wwise provides. These are all elements we will continue to enhance over the coming year.

Do you think that developers can continue to get more out of the current generation of consoles audio-wise, or do you think it's a case of waiting until the next generation before any major advances?
The next generation of platforms will certainly facilitate certain aspects of audio development. That being said, I feel that a fair number of games use just a fraction of what is available with the current generation of platforms. There are game developers that are still producing relatively simple audio designs for a number of reasons, including a lack of technical or financial resources, production cycles that are too short, or simply because they are just starting in the business and don't have a lot of experience. So I think there's definitely space to expand on the current systems.
www.audiokinetic.com

Audiokinetic's client list is genuinely like a who's who of game development – recent titles include Assassin's Creed 2 (left page), Army of Two: The 40th Day (above), The Saboteur (inset left), and Halo Wars (inset right)

SoundSeed Air

One of the big introductions that Audiokinetic made this year was SoundSeed, further extending its Wwise plug-in line up. Envisioned from the beginning as a series of modules, the SoundSeed series looked to take audio in games beyond pre-recorded clips and, thanks to the power of the current generation of consoles and PCs, finally bring dynamic sound generation into the mix based on advanced DSP techniques.

Beyond just being technologically pretty cool, generating audio dynamically means that memory footprint is dramatically reduced – if at the expense of CPU cycles, admittedly – but also that the audio can be much more closely tied in with what's actually going on in the game as it's being played.

While we've covered the introduction of the SoundSeed series in these very pages before, and even Realtime Worlds' experiences integrating the first module, Impact, into *APB*, we haven't yet looked at the second module in the series – SoundSeed Air.

While Impact focused on the run-time generation of impact sounds, Air similarly focuses on air noises. It's actually divided into two Wwise plug-ins – SoundSeed Wind and SoundSeed Whoosh. In the firm's own words, Wind generates sounds based on how wind blows across wind deflector objects, and is useful for creating outside ambiences, aircraft engines, and special effects based around air displacement.

SoundSeed Whoosh, on the other hand, generates sounds based on how those wind deflector objects themselves travel through the air, making it suited to close-combat swooshes, bullet fly-bys, and other motion-based sound effects. Both plug-ins use parameter-based synthesis, as opposed to Impact, which used modal synthesis techniques.

GUIDE: IPHONE ENGINES

It's a Wild West out there on the App Store, but that isn't stopping most people from wanting to go pan for gold in them there hills. **Ed Fear** looks at the tech out there to help make the journey easier…

A little over a year ago, it seemed like the future was iPhone. A truly open development ecosystem, low barriers to entry, and a handful of wild success stories had everyone dreaming of giving up the daily grind and paying off their mortgages within a month or two.

Sadly, the reality is always slightly less rosy than the ideal. The low cost SDK meant that the market was flooded with detritus, making it difficult for the quality titles to stand out. Apple proved less of the ideal development partner than everyone hoped, with a clogged approvals process and occasionally arbitrary decision making. And the lack of tactile controls meant that certain genres of games were quickly realised as unfeasible prospects.

Still, there's no doubting that for those who reach the coveted number one spot, there's big money to be made, and many smaller studios are existing solely on iPhone profits. But the key is to minimise risk by spending as little time and money as possible, so that failure to get 'Featured App' status doesn't mean financial ruin – and using middleware is a great way of reducing that risk.

SHIVA

DEVELOPER
Stonetrip
CLIENTS
Antek Studios, Controlled Chaos Media
PLATFORMS
iPhone, PC, Mac, browser, mobile, XBLA, PS3, Wii
PRICE
Free learning edition, E169 – E1024
CONTACT
Via website

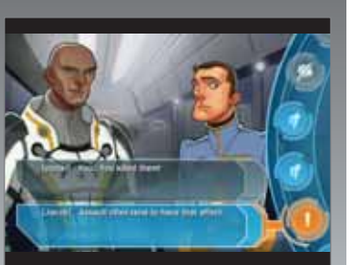
Antek Studios used Shiva to develop racing title PirateWings

www.stonetrip.com

While not as well known as Torque or Unity, Shiva's polished editor and high-end features are certainly punching above their weight. Like Torque and Unity it's actually geared towards a lot more than just iPhone, but interestingly the editor is Windows only (it's claimed to work on a Mac via Parallels, but some have claimed it to be a bit flaky) – meaning you don't have to have a Mac to make iPhone games. That does mean you won't get low-level Xcode access, though, making it slightly black box.

TORQUE 2D

DEVELOPER
GarageGames
CLIENTS
BioWare, GarageGames, Big Blue Bubble
PLATFORMS
PC, Mac, browser, iPhone, XBLA, PS3, Wii
PRICE
From $1000
CONTACT
Via website



Mass Effect Galaxy, which bridges the two Xbox 360 games, was built with Torque 2D

www.garagegames.com

GarageGames' entry into the iPhone market is based around its bigger Torque 2D offering, previously known as Torque Game Builder. You get a comprehensive WYSIWIG drag-and-drop editor plus the same TorqueScript language as its big brother. You also get full source so that you can integrate any other middleware you wish. GarageGames is also readying a version of its Torque 3D engine, expected to be out soon, which can be pre-ordered for a reduced price of $650.

UNITY

DEVELOPER
Unity Technologies
CLIENTS
Graveck, Mika Mobile, THQ Mobile, Chillingo
PLATFORMS
iPhone, PC, Mac, browser, Wii
PRICE
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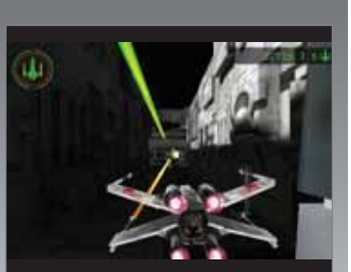
CONTACT
sales@unity3d.com



Star Wars: Trench Run is one of the most visually impressive games on the platform

www.unity3d.com

Without a doubt the most popular choice for those looking to buy an iPhone engine, Unity iPhone has been used in over 150 games released on the App Store, including many number ones. The iPhone version mimics its more general sibling's intuitive interface and workflow, but generates and automatically updates Xcode projects rather than binaries, allowing developers to mix in native Cocoa menus or external APIs such as AdMob or OpenFeint.

BORK3D

DEVELOPER
Bork3D Games
CLIENTS
Bork3D, Bioroid Studios
PLATFORMS
iPhone
PRICE
From $49
CONTACT
Via website

Bork3D was used to create iPhone title Anytime Golf

www.bork3d.com

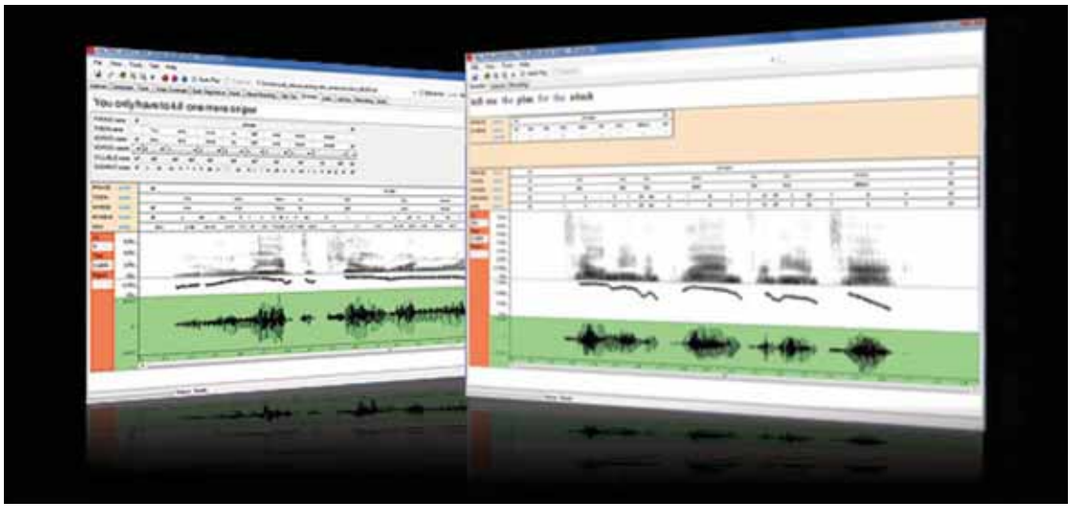
If the other options here have been a bit too much for your wallet, you might want to give Bork3D a go. Okay, so it doesn't have in-game content creation tools or a scripting language, but if you're after a well-rounded basic engine then Bork is worth a look. You get full source code, Bullet physics, a GUI system, COLLADA tool pipeline, a profiler, unit test framework, audio engine, and even a web-based interface for dynamically editing the game state in real-time as you test.

KEYRELEASE

PA Studio

Is believable dynamic text-to-speech at runtime a pipe dream, or are we nearer than we think? **Ed Fear** caught up with Phonetic Arts to find out about its new product…

DEVELOPER: Phonetic Arts
PRICE: On request
CONTACT: enquiries@phonetic-arts.com
www.phonetic-arts.com



Far left: PA Studio Generator creates entirely new sentences from source phonemes

Left: Paul Taylor, CEO

Above: PA Studio Composer in action

As games become ever more cinematic, and writing for games becomes more of an understood craft, the amount of voice content in games has increased by a staggering amount. Take *Mass Effect 2*, for example: recent statistics suggest that the latest installment of BioWare's space opus contains over 31,000 lines of dialogue.

Naturally, that means an awful lot more voice recording sessions and an awful lot more disc space to store them. Imagine, then, being able to procedurally generate speech that sounded just like a human, with the right intonation, emotion and expression to match the best voice actors in the industry.

Imagining it? Now stop. It doesn't exist. Such lofty aims are the Holy Grail for the speech technology industry, but nobody knows exactly when they'll get there. In the meantime, Cambridge-based Phonetic Arts has a solution to help game developers go beyond just playing pre-recorded clips.

"We're being very cautious to not over-promise anything," explains CEO Paul Taylor when we meet him. " PA Studio 2009 does a lot of good things – a lot of simple things – very well. We can have fairly natural-sounding voices that can say anything, or very natural voices that can say a few things. We really don't want to say that this first product is the be all and end all; it's not like that at all. It doesn't yet perform miracles."

The first thing that developers need is a source voice file: the system needs a reference, as it essentially 'mimics' an existing voice through analysis rather than generating one out of the ether. Once input into PA Studio, the magic starts to happen.

"Essentially what PA Studio does is that it builds a statistical model of the voice – that's where the magic is," explains Taylor. "There's a lot of signal processing, learning statistical models and linguistic analysis and so on going on. Once it's complete you have this compiled voice, which is basically the asset."

> ***"We don't want to say this product is the be all and end all. It doesn't yet perform miracles."***
>
> Paul Taylor, Phonetic Arts

It's here that Phonetic Arts' offering splits in two, depending on what exactly you want to do. The first option is Composer, an 'intelligent way of combining pre-existing waveforms'. If this doesn't sound massively innovative to you, this is where what Taylor said earlier comes in: doing something simple very well.

"If you just try to brute force two speech clips together, at best you'll get a 'click' where they join and at worst it'll sound like a train announcer. So Composer gives you a very easy way of combining these speech waveforms. We've got this phoneme blending technology that blends through the join – it's perfect, and you can't tell that they weren't originally a single line."

A typical use-case is sports announcers in games. "If you take a sentence like 'Beckham passes to Ronaldo,' that 'passes to' is a carrier sentence, so with Composer you can change both of those names and generate the new waveform."

The other option is the more freeform Generator, which takes this statistical voice model, plus any text that you feed it, and generates audio – like the text-to-speech you might have played with before, but hugely better quality.

"We're seeing an awful lot of people really excited about this for generating placeholder dialogue so they can get rough timings for animations. Just give it 50,000 lines of script and it'll just spit it out."

Both Composer and Generator can be run off-line through the PA Studio app, but the real magic is in the real-time versions. For Composer, that means that you can store your dialogue as compiled voice files, which typically amounts to about 30 bytes per sentence, and then generate the waveforms at run-time through a lightweight component. Meanwhile Generator can also be done at run-time, allowing, for example, the player to choose their own name and still have it spoken by the cast.

So, not the Holy Grail yet – but an interesting, and targeted, first step.

Volume issues

One of the things mentioned earlier is that the technology needs source audio in order to work its magic.

"You need a decent amount," says CEO Paul Taylor. "For Composer, the absolute minimum is about 30 minutes. All of the stuff that it does – the joining between the samples – is statistically learned from their general speech patterns, so you need to have quite a lot for phonetic material for it to work from. 60 minutes would be ideal really, especially for a main character."

Obviously, given that Generator does even funkier voodoo with the source material, it also needs quite a bit more – but a new version, currently being worked on by the team, will most likely bring requirements in line with Composer.

"Today's version of Generator requires about three hours of speech to function properly, which is quite a lot. A new version that we're currently working on has a new adaptation technique, where we'll include what's essentially a generic voice – the average of everybody's voice – and after that you just have to record a small sample for each person and just morph the base towards that. I can't put a number on it, but maybe around 30 minutes again.

"We're using this because we don't want to impose huge extra recording costs upon developers. For something like *Mass Effect*, three hours of dialogue is not a massive undertaking, but for something else – maybe a sports game with an announcer – that's quite a lot."

Whatever happened to AI?

Remember when AI was the next big thing for games? **Ed Fear** looks at what caused the fall from popular consciousness, and why AI middleware might be able to help get it back on the right track…

Forza Motorsport's Drivatar concept – an AI that learns from how you race – has been praised by reviewers

The Halo series has always put squad and enemy AI at the forefront

Back when the original *Halo* helped launch the Xbox into the popular consciousness, it was difficult to pick up a game magazine and read a review that didn't mention AI.

Thanks to Bungie's efforts to create a believable battlefield experience, gamers had their eyes opened to the possibilities: enemies could be more than pop-up targets in a shooting gallery, and proper adversaries. Remember the first time you played *Half-Life*, and a soldier tried to flush you out by throwing a grenade into your warm little cubby hole?

Fast forward to the end of the decade, though, and AI isn't quite such a hot topic. Every now and then there's a game that shows something new, but for the most part gamers realised that for every game pushing the boundary there were ten that didn't. We'd reached a new level, but failed to go any further.

Despite even a new hardware generation, the advances didn't seem that palpable to the people playing. So what happened? For the most part, it's not like there wasn't actually any progress: the environments that level designers and artists created got bigger and more complex, thus leading to more work having to be done on things like pathfinding and navigation.

This decade also saw physics come into its own, and game designers revelled in throwing as much around as they could. But that created a huge problem in, once again, pathfinding and navigation – things that seem so simple and so normal to players, but present a massive challenge to developers. In order to go beyond focusing all their efforts on just these low-level necessary tasks, a number of companies are providing AI middleware to help.

> ***"It's not a lack of CPU power that limits the AI in a lot of games these days, it's that there aren't any suitable tools to make implementing AI easier."***
>
> Andreas Gerber, Xaitment

CAUSING HAVOK

"Today the term AI middleware is loosely defined – certainly far more loosely than say physics or animation middleware," says Dave Gargan, principle engineer at Havok, which this year introduced its first AI middleware product.

"Havok AI focuses on a set of low level AI services centered on efficient and reliable pathfinding and following for dynamic environments. Developers understand where that starts and ends and how it can integrate in their existing pipelines. Anything higher level should require significant convincing. I'm not convinced that there are widely applicable general approaches yet that are suitable as middleware."

German developer Xaitment, however, believes that there is a place for higher-level AI middleware – in particular, tools that help designers implement and tune complex behaviours beyond the sort that we currently see today.

"It is not a lack of CPU power that limits the AI in a lot of the games these days, it's the fact that there are not suitable tools to make the implementation of AI faster and easier," explains the company's CEO, Dr. Andreas Gerber.

"Especially at the end of the development process, when the pressure grows and grows, we always see that developers go back to their old, well known tools or do everything by hand. But these tools don't solve the 'old' problems, and that's exactly the reason why we developed our modular AI approach to help in the development process."

INTELLIGENT DESIGN

A real problem to seeing AI middleware become more adopted, believes Gerber, is that AI programmers often feel that their livelihood is at stake if they defer to outside techology. "Our experience over the past five years is that, the smaller the development team, the more programmers really believe that they can do everything on their own. We often see the typical 'not-invented-here-syndrome' that makes project planning and managing a nightmare in the end."

"Look at the *Halo* series, or the *Forza* series, both of which have amazing AI. All these game studios do one thing right: they are aware that AI is as important as graphics and physics, and therefore spend the same amount of money for developing the AI. These teams have up to 12 people concentrating on AI and content for AI, over the space of the whole project."

One thing that Xaitment always promotes is the idea of a new role in the team: the AI designer.

"He or she develops all the behaviours and configuration of the NPCs as the game designer dictates. This seems obvious to us – why should a programmer do design tasks? He is not the specialist. A programmer can implement the algorithms, but the creative things should be done by people who are trained to do just that. By using middleware and working together with AI specialists, really good-looking AI can be implemented with much smaller budgets."

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Go the Distance...

LONGTAIL STUDIOS

Longtail Studios is a videogame developer started by Gérard Guillemot, one of the cofounders of Ubisoft Entertainment. Their founding mission is to create the next generation of character driven video games.

Longtail Studios is comprised of four development studios: Quebec City, Prince Edward Island, Halifax and New York City. Longtail creates games for the Nintendo Wii, Xbox 360, Nintendo DS and the iPhone/iPod Touch.

They currently require talented developers to join their expanding team at their impressive new offices in the heart of Quebec City, Canada.

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The successful candidate will lead the development of new titles from concept to release. You will be charged with managing cross-functional teams to move their product through each stage of development. A minimum of 3 years experience at Producer level – leading a cross functional team on a next-gen title is required. Contact Simon@aswift.com

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The chosen applicant will be responsible for the production of new-generation console, handheld and PC games. At least 3 years console experience on a next-gen title is desirable. Contact Hollie@aswift.com

Art Director **$Flex + Full Benefits**

As Art Director you will define the whole artistic style of the project and communicate this throughout the team. The successful candidate should have 3+ years experience within games and be a very effective communicator with proven leadership abilities. Candidates should be proficient in 3DS Max. Contact Dan@aswift.com

For more detailed job specs please contact our dedicated consultants via phone or email in the strictest of confidence

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AardvarkSwift

STAR CONTROL

With over 200 engineers across three continents, EVE Online is a massive undertaking. Here, CCP's Berglind Ros Guomundsdottir tells **Develop** how it uses Perforce to manage such a gargantuan task…

It's the largest single-server MMO in existence. It has over 300,000 subscribers, each inhabiting their own corner of the 5,000 solar systems that make up the giant game world. It gets two massive expansion packs added per year, in addition to regular patches.

EVE Online's vast scale means that maintaining and extending that universe is a huge challenge for developer CCP. With offices in Iceland, America and China, the volume of activity means that the code base and assets are constantly being added to, while existing data is being polished.

"We use the staging streaming model: main, staging, release," says Berglind Rós Guðmundsdóttir, software engineer/configuration manager at CCP. "Similar to how websites are developed and deployed, this is a good fit for MMOs, where we need to regularly deploy patches and at the same time develop the next expansion to the software."

The team uses Perforce to ensure the smooth-running of this model, and to track art assets, marketing materials, website code and content.

"Having an SCM system is crucial, because it allows us to selectively release updates from our development codeline and keep track of how the code has evolved over the last five years. It also gives us the option to work on projects in a separate codeline until they are stable enough to be brought into the main development codeline," explains Berglind.

With almost 200 developers spread between Reykjavik, Atlanta and Shanghai, SCM facilitates collaboration and flexibility. "The different teams work on various projects, sometimes co-operatively, sometimes independently. Projects that are ready for release are then brought together for rigorous testing before release. SCM is important because it enables dispersed teams to work in a single code base, as well as being able to branch out when appropriate."

APOCRYPHALIPSE NOW

To give us an example of how SCM plays an integral role in developing *EVE Online*, Berglind explains how the recent *Apocrypha* expansion saw the Shanghai and Atlanta teams join together to achieve ambitious aims.

"By using Perforce proxies to cache files and reduce the network traffic across the globe, we were able to have all the teams working in the same codeline and on the same server, without too much latency. It helps us deal with remote worker collaboration."

Perforce proxy is a self-maintaining server that caches versioned files for re-use on any local network with remote access to the Perforce server. Any number of proxies can be quickly deployed without requiring additional hardware or software at the main site. CCP has one in each of its three development locations.

"In the case of the *Apocrypha* project, this meant all teams were working with the latest code. Continuous testing of the expansion was practical and this helped detect any issues as early as possible," added Berglind.

"We had a team working on improving fundamental parts of the game and it needed to be able to check-in intermediate steps that could break the game client. This could have significantly disrupted the development work in other teams, so this team worked in a separate codeline that was integrated at defined delivery points."

> ***"By using Perforce proxies to cache files and reduce the network traffic across the globe, we were able to have all the teams working in the same codeline and on the same server, without too much latency. It helps us deal with remote worker collaboration."***

PAST TIMES

While future development is naturally an important area of focus, Berglind also stresses the need to maintain accurate information about code and other assets that are no longer being developed. "With CCP's mature codebase, it's very important to track the change history of files and pinpoint when and why changes were made."

As far as development work is concerned, CCP has seven active codelines in use daily. The SCM repository also includes data for the websites, marketing materials, utilities and various sandboxes. Test branches that allow developers to modify code without affecting the rest of the team, allowing the developer to try out scenarios and create experimental designs. The total size of the SCM repository is 300GB and the metadata is about 10GB.

Perforce has been installed within CCP since 2004 and is used by all the developers, technical artists, deployment teams, and individuals within the test and marketing teams, currently covering 220 user licenses. "There are many reasons why Perforce was chosen, but one of the main ones is that it's really fast, even with large binary files. In games development, speed is important," says Berglind.

Ensuring consistent work practices across multiple users is a challenge for any developer and CCP uses triggers within the SCM to enforce rules about how code is treated. Berglind says: "We have used the trigger feature to enforce the rule that there shouldn't be any tabs in the code, only spaces. We also use triggers for check-in rules, for instance when certain files are changed, the changelist description must contain a reference to a work item."

Changelists are another feature that CCP uses. "The concept of changelists is where changes to multiple files are grouped together. It helps us track files and change history."

Although Perforce is designed to provide users with comprehensive tools, its range of APIs also enable companies, such as CCP, to tweak Perforce to suit its own requirements. "The flexible API means we're able to create scripts that perform various actions against the Perforce server, for example in production cycle."

Clearly, SCM has helped CCP to become one of the most innovative developers of games in the world, and as *EVE Online* continues to go from strength to strength. However fast users and content grows, SCM will help to ensure that development and release cycles are kept on course.

www.ccpgames.com
www.perforce.com

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HEARD ABOUT DJ Hero

John Broomhall talks to FreeStyleGames' music guru, Dan Neil, about creating an authentic DJing experience…

THIS MONTH'S FEATURED SOUNDTRACK:
DJ Hero

DEVELOPER:
FreeStyleGames

PUBLISHER:
Activision

PLATFORMS:
Xbox 360, PS3, PS2, Wii

There's a special air of excitement surrounding the release of *DJ Hero*, and the level of support for it from artists and celebrity DJs is striking. Watch the promo videos featuring Grandmaster Flash, Z-Trip and Jazzy Jeff and you will find real connection and energy from a bunch of world-class DJs. And with support from top-ranking artists like Jay-Z and Eminem, the game has been seriously hyped.

Music guru Dan Neil has overseen all music selection and production. "*DJ Hero* has a scratching and mash-up aesthetic, blending different genre tracks to sit together tonally, rhythmically and lyrically," he explains.

"Here at FreeStyleGames, we have a group of 16 amazing remixers who created many of the mixes. I had to establish benchmarks, quality control and a good review pipeline, working closely with the design team to constantly improve gameplay – all the while making sure the mixes rocked."

The game includes a broad range of 102 songs, whose accappellas and instrumentals are mashed-up to create 93 entirely new mixes. Add awesome scratching and FX, and you have something genuinely special where fans are already asking for standalone versions of these bespoke mixes. *DJ Hero* goes a significant step further creatively than *Guitar Hero*, by combining tracks in completely new ways for an impactful celebration of turntablism and DJ culture.

Neil's team is responsible for defining gameplay using MIDI information written alongside the audio construction in Ableton. It's then interpreted by the game engine into visual player prompts seen onscreen.

"It's a really interesting process because unlike *Guitar Hero*, if the gameplay didn't feel quite right we could actually go in and change the music to suit gameplay objectives – it only takes two minutes to iterate a mix and put it back in the game using our custom export tools," says Neil.

"Eventually, our staff remixers were thinking about how their music choices would deliver MIDI gameplay patterns right from the beginning of a mix, effectively wearing two hats – music producer and level designer."

It's no surprise that the existing reputation of the Hero franchise opened the doors of sync departments worldwide but, nevertheless, asking artists to sanction the re-purposing of their music to the extent *DJ Hero* demands is a big ask. According to Neil, an atmosphere of respect and a experiential recognition of the team's bona fide DJ skills have been key.

> ***"DJ Hero goes a step further than Guitar Hero, by combining tracks in completely new ways for an impactful celebration of turntablism and DJ culture."***
>
> Dan Neil, FreeStyleGames

"We did a lot of taking the game to artists so they could see it was going to be fun and could hear examples we'd already created. When they realised their content was in safe hands they came on board. Obviously we had to wait until we had a decent version of the peripheral. You can't take a wooden prototype knocked up in [creative director] Jamie Jackson's garage into Jay-Z's office and say, 'Hey look at this weird contraption. Want to be in this game?!'"

As momentum grew, the emails from Activision Santa Monica's licensing team got more exciting, Neil admits. "You'd get emails – 'Oh by the way, Black Eyed Peas are in' – then the next day, 'By the way, Daft Punk want to be involved too.' It was amazing – although tough to schedule, especially later on."

An undoubted highlight of Neil's role was working with celebrity DJs, explaining to them the gameplay criteria and instructing them on how to create mixes that would make full use of the game's feature set, all the while not hampering their creativity. For some DJs, this activity happened over the wire with mixes going back and forth for comment. For others, the work took place at Neil's office or in the DJs' own home studio.

"Jazzy Jeff came to us – and there he was, right across the room, cutting up LL Cool J – it was very cool. The most unforgettable time for me was with legendary Grandmaster Flash. There I am in Flash's house, in his studio, asking him to do another take. I definitely had to pinch myself – it was very surreal.

"*DJ Hero's* pretty much taken over my life for the last three years but it has been an amazing journey. At the E3 launch party I watched FreeStyleGames' own Jamie Jackson open the promo show which featured Jay-Z and Eminem. To my right was Usher and to my left was Leonardo DiCaprio. That's when you really double-take and realise you're on the inside of this massive whirlwind. And yet, the weird thing is I get the feeling we've hardly even started."

FreeStyleGames' music guru Dan Neil has overseen every aspect of production for DJ Hero

John Broomhall is an independent audio director, consultant and content provider
develop@johnbroomhall.co.uk
www.johnbroomhall.co.uk

UNREAL SET FREE

Epic Games recently launched the Unreal Development Kit, a free edition of Unreal Engine 3 that provides community access to the company's award-winning toolset like never before.

UDK is available to anyone interested in using 3D game engine technology, including game developers, creators of 3D visualisations and simulations, hobbyists, students, researchers and digital filmmakers. Anyone can start working with UDK by downloading the latest software release at *www.udk.com*.

Also available at the UDK website is a developer diary, technical documentation and source code for the first project built from the ground up with UDK.

Whizzle is a vertical scrolling puzzle game by Psyonix Studios that was developed in under two months by one artist and one programmer.

UDK provides free access to the same great tools used by many of the world's best game developers and publishers. Unreal Engine 3 is a constantly evolving game engine, and UDK contains all the most recently added features and technological enhancements, including many that have yet to be seen in an Unreal Engine game.

There is no charge for non-commercial or educational use of UDK. The software package is free for all schools and students to use, and anyone can release free UDK-powered games.

Those wishing to develop software for commercial purposes should refer to *www.udk.com/licensing*. Commercial terms have been structured to make it easy for independent developers, start-up firms and seasoned professionals to use UDK with minimal financial barriers from concept to deployment.

Over one hundred academic campuses use Unreal Technology as part of teaching game development-related courses, and colleges with plans to incorporate UDK into their curricula include the University of Pennsylvania, North Carolina State University and The Art Institute system of schools, with many others to be announced.

Epic is committed to supporting UDK users with high-quality documentation and ongoing, free software upgrades. Over 200 pages of newly unlocked reference material are available at the Unreal Developer Network (*udn.epicgames.com*), and users can access dedicated forums at *www.udk.com/forums*.

Over 50,000 users installed UDK within its first week of release, and Epic has shipped optimisations for stability and performance through a second beta version.

3D Buzz (*www.3dbuzz.com*), the leading provider of Unreal Engine 3 training, will soon release over one hundred free video tutorials on getting started with UDK to complement the company's existing Unreal Engine 3 video training modules.

Over one hundred Unreal Technology videos are already viewable at the 3D Buzz web site free of charge.

Mastering Unreal Technology, Volume I: Introduction to Level Design with Unreal Engine 3 and *Mastering Unreal Technology, Volume II: Advanced Level Design Concepts with Unreal Engine 3*, are recommended for learning the Unreal Engine 3 toolset. 3D Buzz authored both textbooks, published by Sams, and each come bundled with a free, downloadable copy of *Unreal Tournament 3* for PC.

Main: UDK-powered Whizzle by Psyonix Studios, Inset: Editing particle effects in UDK

UPCOMING EPIC ATTENDED EVENTS:

GCAP
Melbourne, Australia
December 6-8, 2009

DICE Summit
Las Vegas, NV
February 17-19, 2010

GDC 2010
San Francisco, CA
March 9-13, 2010

Please email: mrein@epicgames.com for appointments.

To discuss anything raised in this column or general licensing opportunities for Epic Games' *Unreal* engine, contact: **mrein@epicgames.com**

FOR RECRUITMENT OPPORTUNITIES PLEASE VISIT:
www.epicgames.com/epic_jobs.html

Mark Rein is vice president and co-founder of Epic Games based in Cary, North Carolina. Epic's Unreal Engine 3 won Game Developer magazine's Best Engine Front Line Award for three consecutive years. Epic's internally developed titles include the 2006 Game of the Year *Gears of War* for Xbox 360 and PC; *Unreal Tournament 3* for PC, PlayStation 3 and Xbox 360; and *Gears of War 2* for Xbox 360.
www.epicgames.com

UNITYFOCUS

2009: The Year of Unity

Well it has been a very busy year for Unity with its user base increasing by 240 per cent. **Thomas Grove** looks back at the past 12 months...

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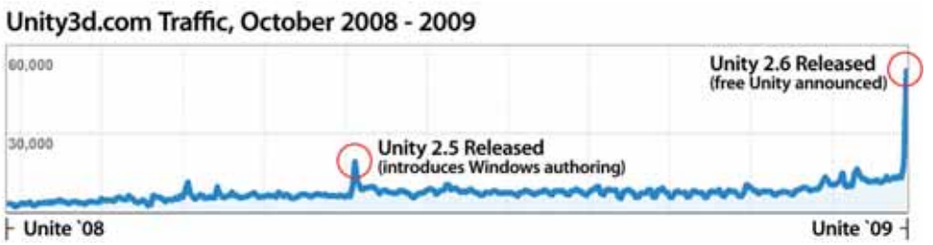
Unity Pro – $1500
WEB: www.unity3d.com



THIS HAS BEEN AN incredibly exciting year for Unity. We released Unity 2.5 in March, which introduced Windows authoring; we closed a round of funding led by Sequoia Capital; we gave our iPhone users a three-fold performance increase when we released Unity iPhone 1.5; and we hosted our third annual user conference entitled Unite, which had more than twice the attendance and the sessions of Unite 2008. We also released Unity 2.6 and announced that the base version of Unity would, from this point forth, be free. We had a pretty good feeling that it would be big news, but we really had no idea just how huge. The move definitely paid off – we've grown our user base by more than 240 per cent and we are still getting more than 600 new users a day.

SPOTLIGHT:
MAX & THE MAGIC MARKER

DEVELOPER:
Press Play

URL:
pressplay.dk

DEVELOPMENT DIARY:
maxandthemagicmarker.com

TARGET PLATFORM:
WiiWare

RELEASE DATE:
TBD

AWARDS:

Winner:
Best Game Design at European Independent Game Awards

Winner:
Best Overall at Unity Awards 2009

Runner Up:
Best Technical Achievement at Unity Awards 2009

Finalist:
Best Visual Design at Unity Awards 2009

ONE OF THE HIGHLIGHTS at the annual Unite Conference is the Unity Awards, where we acknowledge the very best content being created in Unity.

One game stood apart from the crowd in both polish and innovative gameplay: *Max and the Magic Marker*. Its tag line – run, jump, think, draw – sums it up pretty well. The game is the perfect marriage of classic 2D platforming and *Crayon Physics*-like puzzles. The player controls Max with the Wii Nunchuck and wields the magic marker with the Wii Remote to draw physical shapes with a limited ink supply. Physics are applied to the drawing once the player let's go of the pen.

The game's reliance on both action and exploratory physics puzzles leads to a lot of emergent gameplay and replayability – you're definitely going to want to be on the lookout for this game's release.

Q&A DIEGO RUIZ, THREE MELONS

ONE OF UNITY'S STRONGEST points is how extensible it is. You can create your own custom design tools inside Unity, which can appear as menu items, dockable panes, and custom inspectors. In fact, the entire Unity editor is written in our GUI framework – so anything that we can do, you can do too.

We asked Diego Ruiz, lead engineer at Three Melons, what types of extensions he made for the recently released *LEGO Star Wars: Quest* for R2-D2.

What tools have you written on top of Unity to empower your designers?
We created many tools to improve the productivity of the level designer. Some of these tools are:

3D Tile Snapper: A ray based tool that lets you snap the 3D tiles that make up the levels.

Adjacent Tile Cloner: A tool that clones the selected tile and places it snapped in a specified direction (up, down, right, left). It basically lets you build a path of tiles very quickly.

Level Decoration: A 3D tile is a GameObject composed of many others. These GOs define if the tile has decals over it or the type of hole the window has.

Object Aligner and Distributor: The level has many objects to pick up like gems. The level designer can just drop them and then perform the alignment and distribution of the gems very quickly.

Rules Verification: All the levels have some non-visual information inside them like spawn points and objectives. We created an editor window that shows if the designer is missing the specification of one of them.

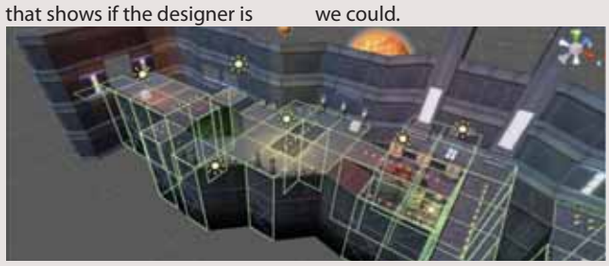
Waypoint Specifier: Lets the designer specify the path of the NPCs. The designer can adjust these while playing the game.

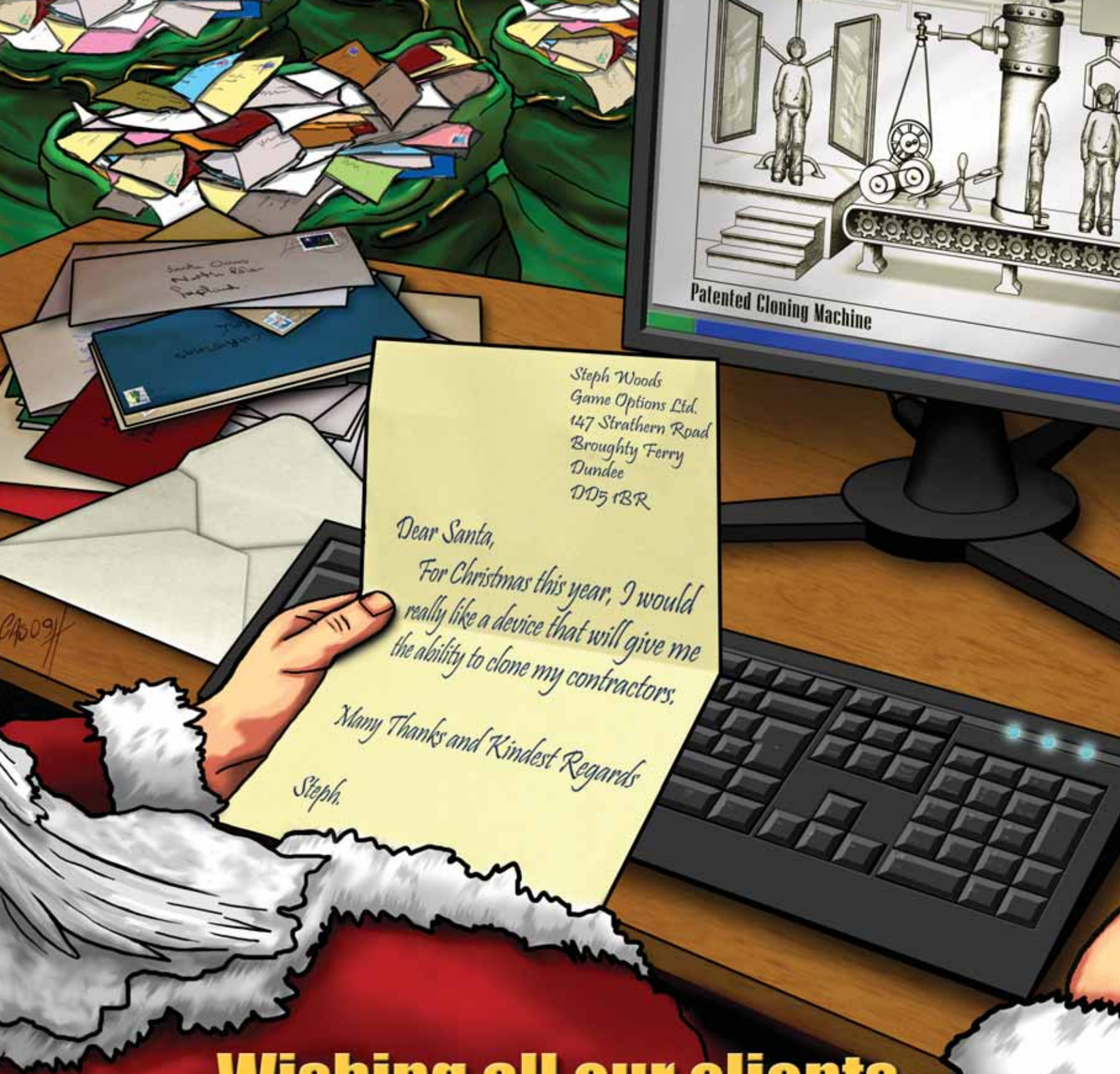
Many menu items: Place an object on the floor, perform a 90 degree rotation on the selected objects, mirror objects, etc.

All of the tools that operate on tiles allow the user to select more than one at a time.

Have you written any tools for those aimed at improving designer workflow? If so, what do they do?
We created a combiner tool based on a grid that performs its job just when the level is loaded. It was a tool aimed for optimisation and it's transparent for the level designer – he didn't even touch it. It was very useful for improving the frame rate.

Because we had the goal of running the game on a *Pentium III* 800Mhz, we had to reduce the draw calls as much as we could.

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splash damage

Fallout 3

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Autodesk Games Insight

The latest scoop from Autodesk Media & Entertainment

WHO YOU GONNA CALL?

Gamers better keep their moist towelettes handy and prepare to be slimed! In Atari's *Ghostbusters: The Video Game*, based on the 1984 action comedy, gamers must face the marshmallow madness of Mr. Stay Puft and other tortured souls as they navigate spook-filled Manhattan as a junior member of the *Ghostbusters* crew. The game is a hit and its developer, Dallas-based Terminal Reality, can take a large share of the credit.

It was a mammoth undertaking that spanned almost three years and involved a team of 65 developers, designers, and digital artists. Terminal Reality relied on Autodesk 3ds Max and Autodesk Maya software, as well as their own custom-made development platform called Infernal Engine, to create a gaming 'sequel' to the first two *Ghostbusters* movies.

The Challenge: Make it Authentic

"There had been *Ghostbusters* games previously, but they were of varying quality and success," says Drew Haworth, creative director. "Our objective was to give players an authentic experience for the very first time, to experience what it would be like to actually use the capture stream to detain and trap the ghosts."

"We really had to get the characters and their likenesses down," agrees Adam Norton, art director. "Getting the dialogue, timing and the comedic reactions between the *Ghostbusters* team was a difficult task."

The Solutions

Terminal Reality's concept artist got the ball rolling in late 1996 by putting together a series of high-end drawings that the team reviewed as their baseline environment.

"From that point on," explains Norton, "We used 3ds Max. We then put together what we call a grey box level to simply block out shapes and prototype assets. This allowed us to get it all into the engine very quickly. The design team could then go on to populate the levels with characters."

"One of the biggest challenges was taking 25 year old characters and making them seem life-like again," added Haworth. "If you do a game using intellectual property and you can get the actors that appeared in that movie, you can grab some reference images from those guys. But we couldn't do that in this case. So we ended up going to not only that movie, but other movies from that time period and just pulled out as many images as possible. The difficulty was that we didn't ever get a really good side profile or a straight on head shot, making it difficult to get the likeness we wanted.

"So what we did with Maya was create a generic male head rig, which we called 'Adam'. From that we were able to put multiple cameras based on the camera angle on the image that we were using. We could have up to ten cameras for the model to reference from any given angle and sculpt his head based on that camera angle. It worked out really well because we were able to get pretty good likenesses overall with every character.

"We were able to use the Maya software scripting capabilities and tools to get us a really good robust head sculpting system. We ended up using one head for literally every male character in the game."

CLIENT TESTIMONIAL

"The thing we really liked about Maya was the flexibility of the tools and being able to do things with mouse scripting on the fly. The architecture that is built into Maya, to me, is second to none."

Angel Gonzalez, lead character and animation artist, Terminal Reality

The Result

Since the release of the game, reviews from gamers and critics alike have been enthusiastic. "At the beginning, we weren't sure if we would be making a game that was funny," says Haworth.

"We didn't know if that would work, we weren't sure if it was achievable, so that is something we put a lot of effort into. From the feedback we've had from players and critics, people actually laugh when they're playing the game, which is a huge step for us. We think there's a place for comedy in action games and blockbuster games going forward."

For more information on Autodesk games software and middleware please visit ***www.autodesk.com/games***

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PEOPLE: Lightning Fish gets new art director
p82

TOOLS: Mystic releases new version of EMotion FX
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SERVICES: Bug-Tracker snares new Euro sales manager
p86

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Studio News

This month: Lightning Fish, Unity, and Konami…

Former Newcastle Midway employee Steve Dietz has joined Oxfordshire studio **Lightning Fish** as art director.

Dietz has worked in the games development industry for 16 years, having previously leant his talents to Midway's *Wheelman* and *LA Rush* projects, as well as working across a number of genres spanning everything from sports to racing titles.

"I'm delighted to be working with the Lightning Fish team, and to be adding further visual flair to their products," enthused Dietz. "I also relish the opportunity to work on genre-leading titles on Wii, PS3, Xbox 360 and Natal."

"I am pleased to welcome Steve on board," added Simon Prytherch, CEO of Lightning Fish. "His wealth of experience and eye for creative detail will be pivotal to the success of the games currently in development and those planned for the future."

www.lightningfishgames.com

Unity Technologies has grabbed ex-Criterion man Graham Dunnett to head up its new UK office.

Dunnett, who is now director of testing, support and docs and the rapidly-growing technology firm, previously worked for Criterion for seven years running its support team. He also helped open Criterion offices in Austin and Tokyo, and spent a further four years at Electronic Arts after its acquisition of the Renderware firm.

"I'm thrilled to join Unity," said Dunnett. "The team behind the technology is an amazing group and the love our customers have for the products tells me Unity is well on the way to putting world class engine and tools into the hands of anyone who wants to make games. This is a company headed for huge growth and I'm excited to play a part in the plans for world domination by establishing the UK studio."

Nicholas Francis, co-founder and chief creative officer of Unity added: "Having Graham on board to establish our foothold in the UK means that we can now offer even better service to our customers around the world. The UK continues to punch above its weight in games development so it's natural for us to have a presence there."

www.unity3d.com

Silent Hill series overseer Akira Yamaoka has left **Konami** after sixteen years of service for the company.

Yamaoka joined the publisher and developer in 1993 and his musical touch can be found across the numerous *Silent Hill* games, many of which he acted as producer for. The audio specialist also created scores for other iconic Konami IP, including editions of the *Gradius* series and rhythm action game *BeatMania*.

Yamaoka, who studied at Tokyo Art College, is yet to confirm his next move. In recent years the *Silent Hill* series has been developed exclusively in the West by Double Helix and Climax.

Though synonymous with the *Silent Hill* series and its spin-off movie, Yamaoka's roots are in live music performance and product design.

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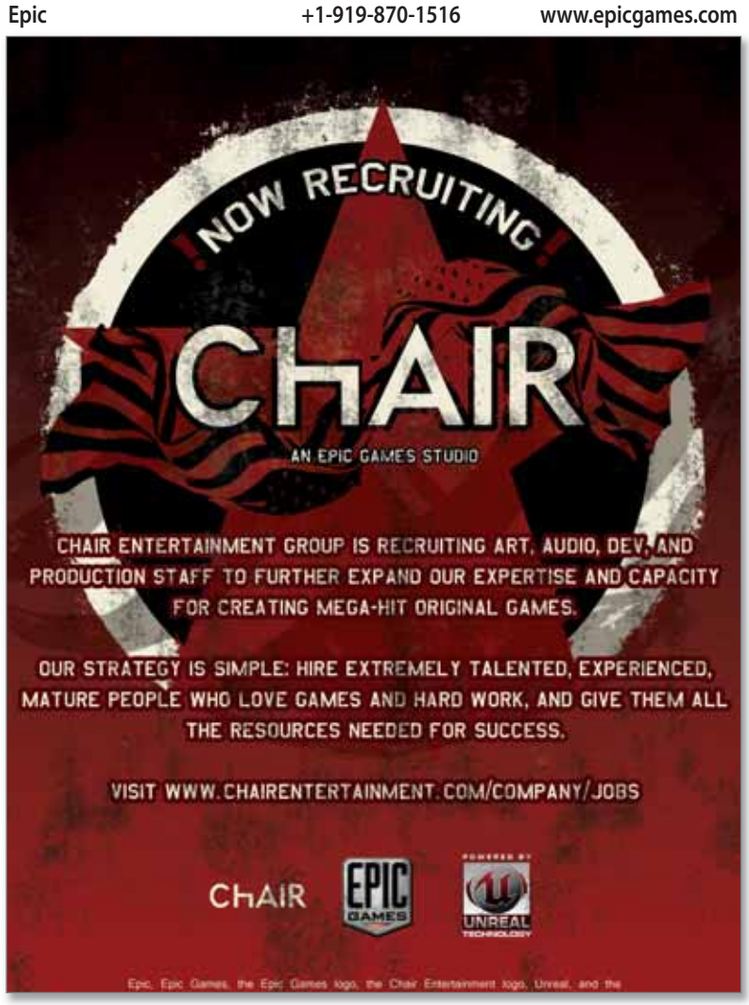
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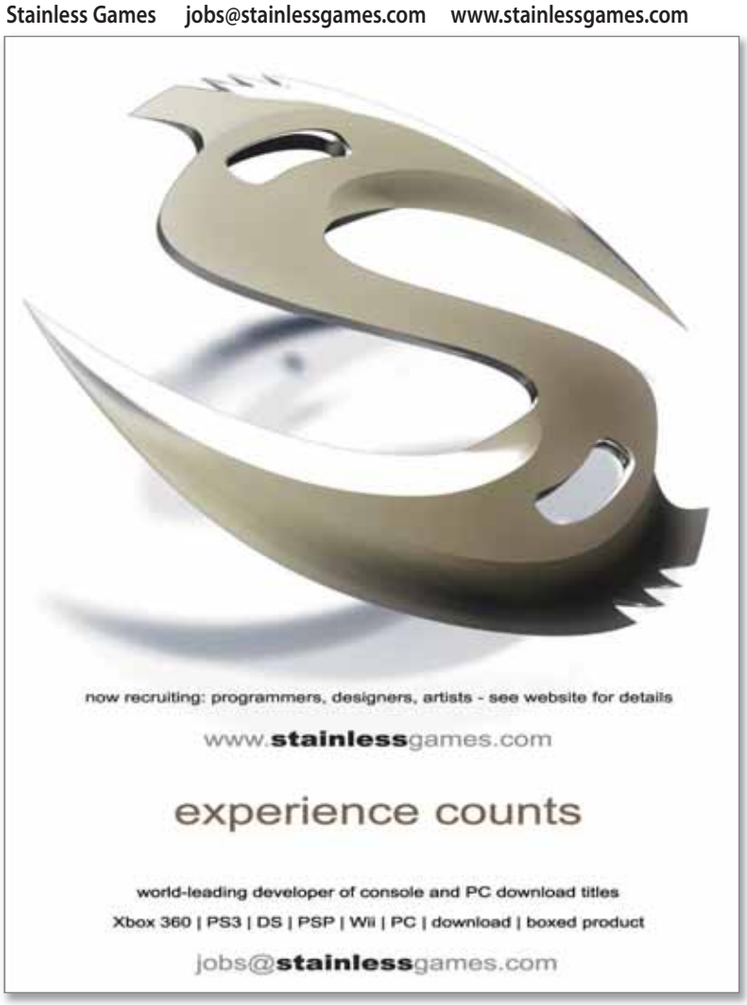
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Tools News

Mystic releases EMotion FX 3.8

Netherlands-based animation group Mystic Game Development has launched the latest version of EMotion FX, its real-time character animation SDK.

EMotion FX is available on a range of platforms, from PS3 to Wii, Xbox 360, Mac, iPhone and PC.

Version 3.8 adds the new EMotion Studio, a command-based editor that supports undo and redo, multiple viewports and characters. MysticGD claims that EMotion Studio is fully customisable, scriptable and extensible through custom plugins.

Other additions to 3.8 include a new compression algorithm that makes motions up to 25 times smaller in memory. Also featuring is an enhanced deformable attachment system, which makes it possible to add new nodes to a skeleton either animated separately or as a whole, plus advanced rendering that works with HDR, blooming, depth of field, normal mapping, specular mapping and rim lighting.

EMotion FX already includes full body skeletal and facial animation support, lipsync, real time motion retargeting, PhysX Ragdoll support, and comprehensive exporters for Max and Maya.

John van der Burg, development director at MysticGD, said the 3.8 release was a major step in the development and future of EMotion FX.

"A lot of work has been put into the new EMotion Studio," he said. "We believe good tools are the future of successful game middleware. Therefore we spent a lot of time writing the completely new EMotion Studio until we knew for sure that it was better than any existing on the market."

www.mysticgd.com

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Tool Spotlight

SUBSTANCE AIR

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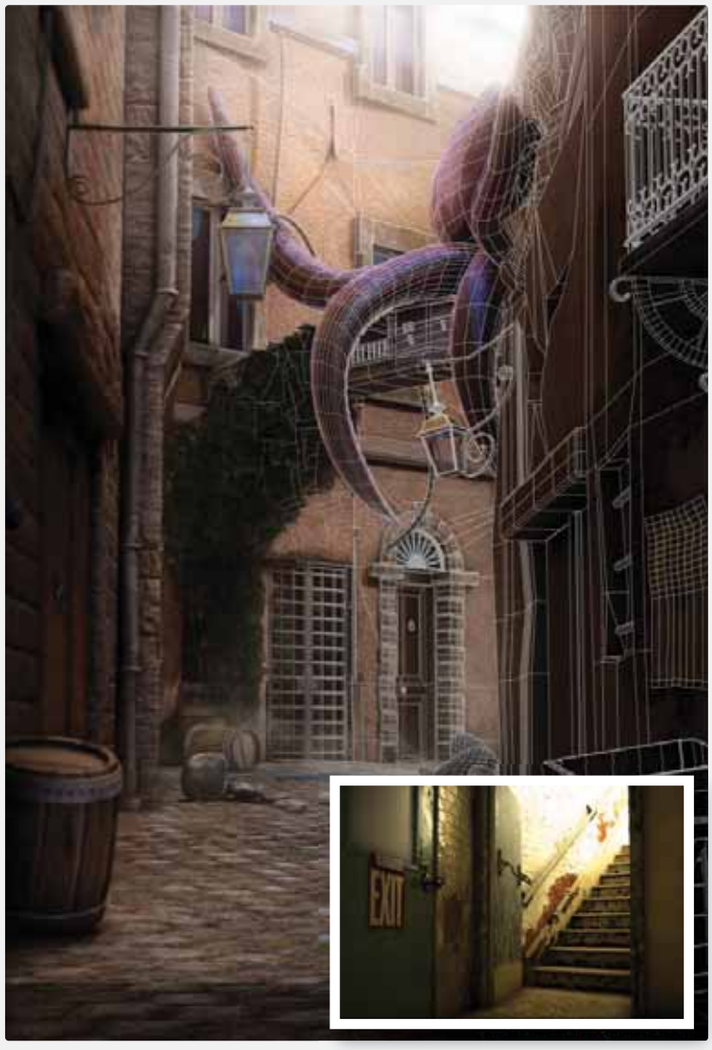
Allegorithmic's next-generation texturing middleware solution Substance Air is designed to provide developers with a lightweight, dynamic and ultimately versatile texturing option that far outperforms traditional bitmap solutions.

Thanks to a revamped runtime engine and a range of new features that replaced ProFX Online's offering, Substance Air is now one of the most substantial texturing tools on the middleware market.

Materials are created in a node-based, non-linear editor and are then written in a proprietary format equivalent in size to a text file, making them ultra-portable for online games.

Furthermore, Substance Air has a generous capacity for supporting user-generated content in games. Because the textures are generated at run-time, those creation parameters can also be changed dynamically by the users – by, say, modifying a simple slider – or by developers themselves, adding rust, damage or blood to the texture based on actions happening within the game.

Going from a traditional bitmap authoring process to a procedural one can take some adjusting to, so Allegorithmic's tech also comes with a built in package of training and support materials to further reduce strain on teams deep into any project.



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Services News

Bug-Tracker scoops new European sales manager

As part of Bug-Tracker's continuing expansion into Asia and Europe, the quality assurance and localisation service provider has hired Wolfgang Klingel as general sales manager for Europe.

Klingel's new position sees him assume responsibility for expanding the company's operations in the European games market. The industry veteran, who has 15 years in the sector behind him, is also charged with strengthening Bug-Tracker's exposure to the publishers and developers in the continent. Finally, working with the firm's other operations in America and Asia, Klingel is tasked with bolstering communication throughout the group on an international scale.

Having previously taken Vivendi Games Germany from start-up to the second-largest publisher in the domestic games market in a general manager role, Klingel later assumed the position of director of development at Vivendi Games Coktel Studio. More recently he worked as vice-president of Enzyme Testing Labs in Europe, where Klingel is credited with significantly developing the QA and localisation company.

"Wolfgang will greatly help reinforce and grow our presence in the market we started out in 10 years ago" stated Antoine Carre, founder and CEO. "He will bring together and integrate key components of Bug-Tracker's worldwide studios, in order to shape, lead and create new market opportunities."

www.bug-tracker.ca

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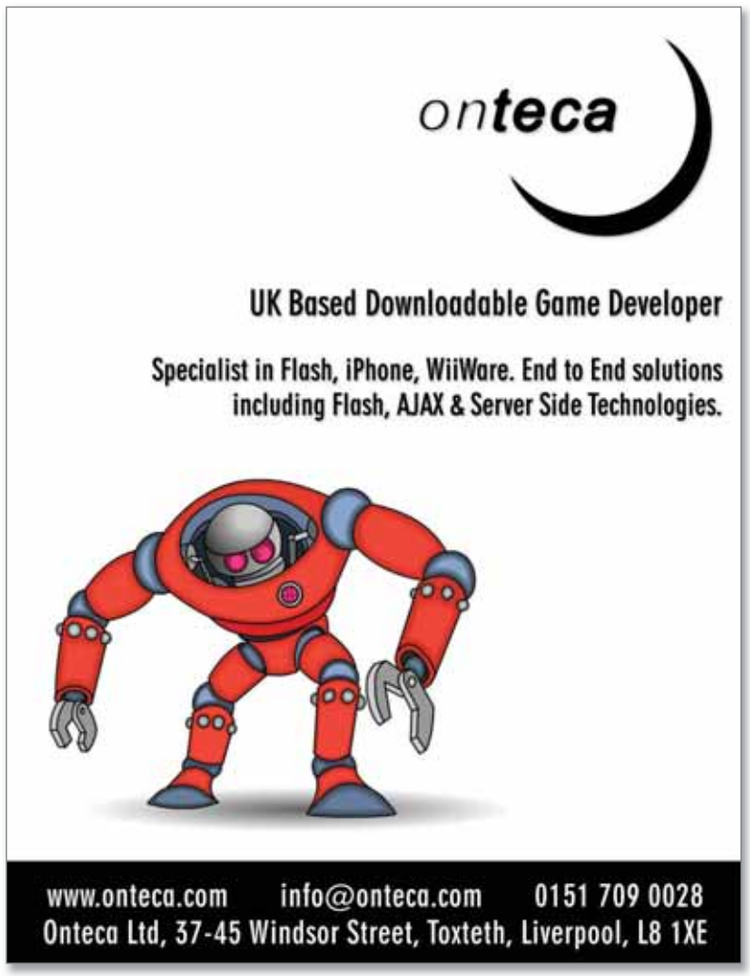
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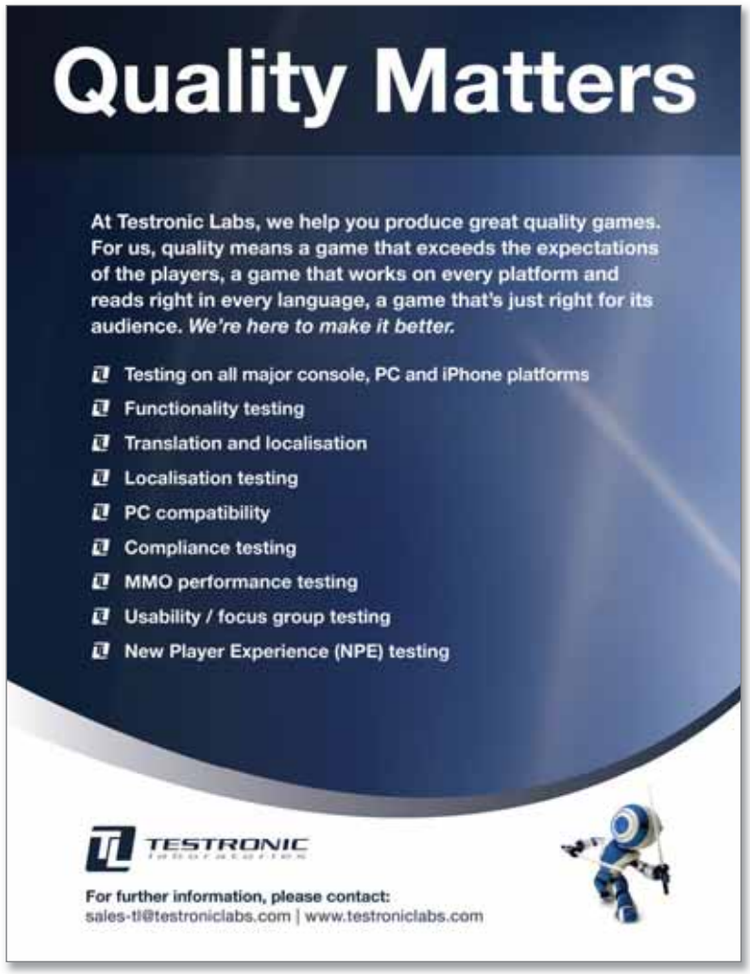
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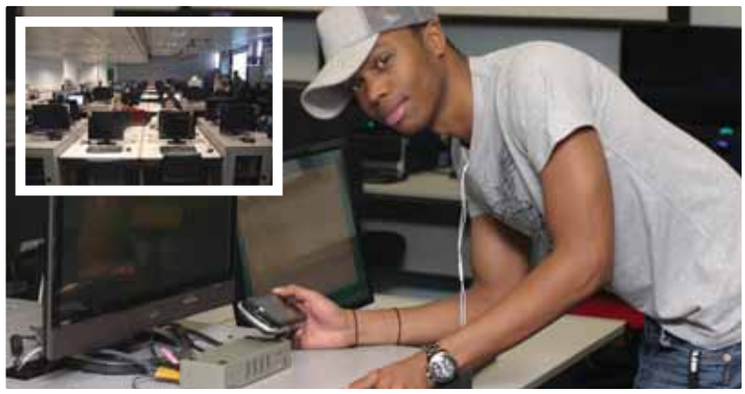
Training News

Kingston University opens games lab



Kingston University has opened a games development lab, promising to offer industry standard technology to students at the south west London university.

"The students can work together taking on a variety of development roles and can use a lot of different equipment simultaneously – all of which reflects what they will find in the real world," said Kingston's games technology field leader Darrel Greenhill.

Both Sony and Microsoft have provided software to the lab, which is equipped to create titles for Xbox and PSP platforms. As well as development PCs, Kingston's new space also includes a trio of paired large projector screens, designed to allow students to study code and graphics at the same time.

"This solves one of the major problems we had with teaching games code," revealed Greenhill. "Before, when we only had one screen, we had to show the code we had written first and then switch to a view of the graphic. Now we have the two screens side by side so we can display the code and the corresponding image together."

"The console games market is a fast-evolving, multi-billion pound industry," he added. "We want Kingston students to be at the forefront of the exciting developments in this important market."

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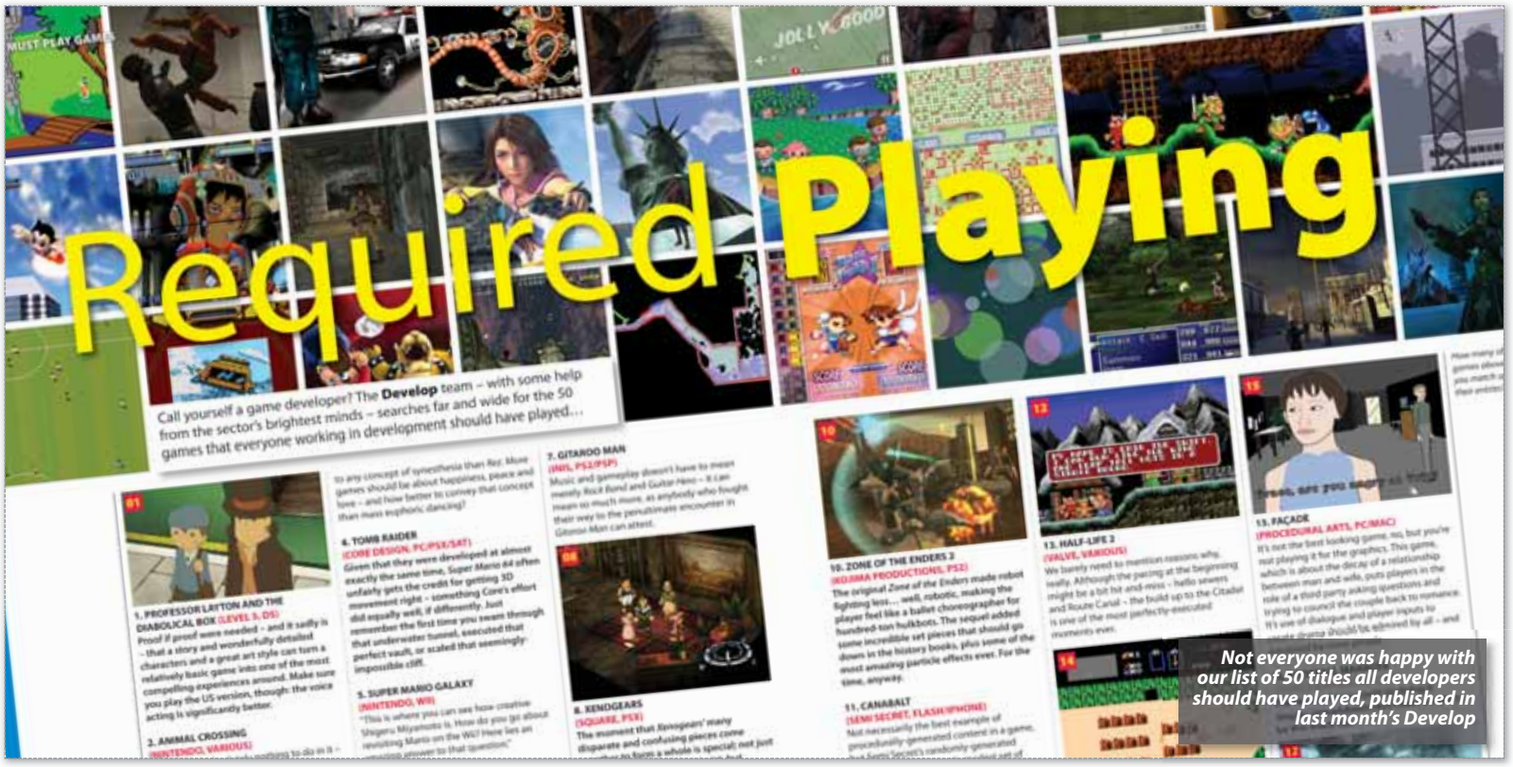
/* Comments */

If you would like to voice your opinion on any of the content within Develop, please send your letters and comments to the editor-in-chief at: *michael.french@intentmedia.co.uk*

‘Must play’ list sparks scrutiny

Develop-Online.net readers offer their views on our 50 Games Every Developer Should Play list this month…


Required Playing
Call yourself a game developer? The Develop team – with some help from the sector's brightest minds – searches far and wide for the 50 games that everyone working in development should have played…
1. PROFESSOR LAYTON AND THE DIABOLICAL BOX (LEVEL 5, DS)
2. ANIMAL CROSSING (NINTENDO, VARIOUS)
4. TOMB RAIDER (CORE DESIGN, PC/PSX/SAT)
5. SUPER MARIO GALAXY (NINTENDO, WII)
7. GITAROO MAN (INIS, PS2/PSP)
8. XENOGEARS (SQUARE, PSX)
10. ZONE OF THE ENDERS 2 (KOJIMA PRODUCTIONS, PS2)
11. CANABALT (SEMI SECRET, FLASH/IPHONE)
12. HALF-LIFE 2 (VALVE, VARIOUS)
13. FAÇADE (PROCEDURAL ARTS, PC/MAC)

Not everyone was happy with our list of 50 titles all developers should have played, published in last month's Develop

Street Fighter is always relevant. That game is like chess. It doesn't get old once you really understand it.
Posted by asdf on Nov 30, 2009 at 6:21 pm

Pokémon needs to be on this list. It was probably the most influential game ever created, nevermind the best RPG.
Posted by David Macphail on Nov 30, 2009 at 10 pm

Lack of any *Devil May Cry*, *Ninja Gaiden* or *God of War* game automatically makes this list a fail.

These games are the true representation of how action hack ‘n’ slash games should be. So basically this list does not care about action hack ‘n’ slash games at all and does not want any developer to learn anything about them.
Posted by Karthik on Nov 30, 2009 at 11:42 pm

I hate you for putting *X-2* on this list. Did you even play it? Sad. How about *Pokémon Red/Blue*, the original *Super Mario Bros.*, *Uncharted 2*, *Halo*, *GoldenEye*. So many omissions…
Posted by nevercloser07 on Dec 01, 2009 at 2:14 am

Where is *Mario Kart*? *Metroid*? *Pure*? *Burnout*? *Counter-Strike*? *Aliens vs Predator*? *GoldenEye*? *Little Big Planet*? *Buzz*?
Posted by BB on Dec 01, 2009 at 2:35 am

Glad to see *The Lost Vikings* made it. It still is one of my favourite games. I'm extremely pleased that it made the list because it sometimes is forgotten over the vast amount of outstanding titles that exist now.

But I also do think that *Pokémon* should be considered a part of this list.
Posted by GirlGamer on Dec 01, 2009 at 2:56 pm

Thanks for the list. I saw a bunch that caused head nods of approval and a bunch more of titles that I need to get my hands on. As an aspiring level/game designer, your input is appreciated.
Posted by Craig on Dec 03, 2009 at 8:55 am

Perhaps *Pokémon* should be in the list for its fame and success, but perhaps there are better examples of that type of gameplay that didn't have so much commercial success. (Although I admit that if you're going to rate a game by anything it should probably be commercial success.)

I'm not sure I agree with *Street Fighter* being on the list as I felt cut out by its fiddly controls. But then it is a game about mastering those controls for some people.

I would add *Osmos* to the list as an example of how the elements of a game can come together to form an experience. Also I would suggest *Supreme Commander: FA* as an example of a strategy game with both great scope and fast-paced gameplay. (RTS games often seem to be left out of games lists.)

And *Braid* should definitely be on the list for it's incredibly interesting story, art, and gameplay.

Cheers for the list guys, I will try and make my way through playing them.
Posted by Santh on Dec 05, 2009 at 8:02 pm

This list is ridiculous. Reads more like the favourite games of some random guy. It doesn't even have any of the original *Mario* games!
Posted by Bertram on Dec 06, 2009 at 12:58 pm

Guys, you can moan all you want, but the list is great. These pieces are designed to provoke response. I don't agree with half of them, either – but I appreciate that someone went to the effort of writing a thoughtful list that mixes things I am familiar with things that I am not. And I find the pithy/instructive comments from some well known faces of the industry a great compliment.

I too will look forward to taking the time to (re)visit some of these for inspiration, and to sharpen my knowledge of the craft.
Posted by Grazory on Dec 07 at 10:58 pm

Develop responds: Naturally, as with any list feature, there's going to be some omissions – and yes, there are definitely some games that could be put in there. The idea was to find out specifically what a range of people felt was important to consider about games, even when they're bad; deliberately highlighting things (and games) that are easily missed. We're confident that we did exactly that – but feel free to suggest your own, mentioning what specifically is important about that game, and maybe we'll put together a Reader's List. (And yes, we have played Final Fantasy X-2, and loved it. So there.)

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It's the time of year where everyone's thinking of moving on, so we take a look at how the games industry job market is coping in the recession. Our comprehensive guide to the job market will include:

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EDITORIAL enquiries should go through to Michael.French@intentmedia.co.uk, or call him on 01992 535646

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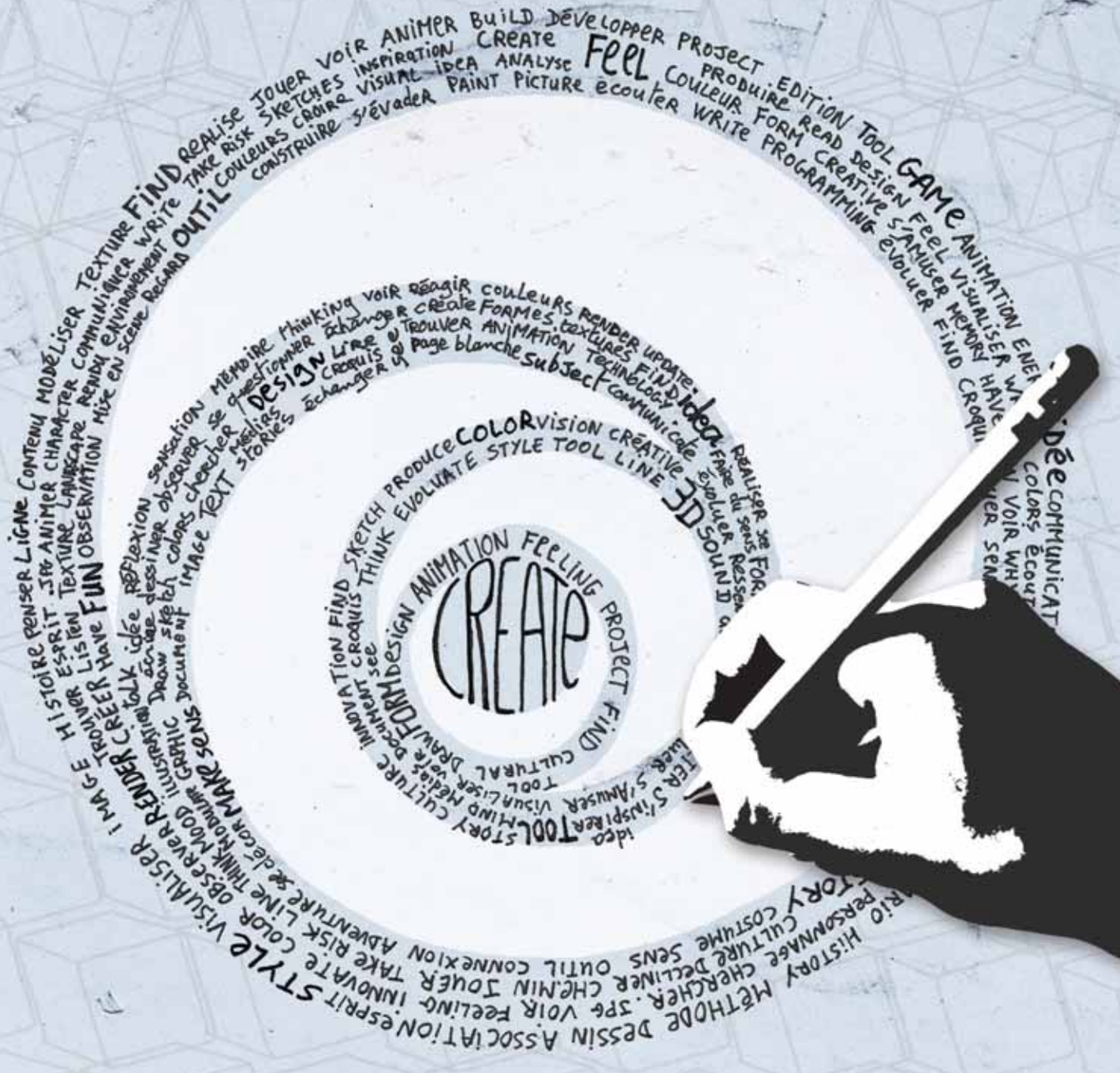

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